

# Panacea-BOCAF On-Line University

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## Over View

*Quote- If this is the first time you are viewing this page I ask you to share this link immediately to everyone you have in your email address list and ask them to do the same no matter what you or they may think. We need to give this back to the World a.s.a.p.*

*Next I ask everyone to stop experimenting if you can and help with this, since I believe it is the one of the most promising real effect at this time (that I know of) that is fully shared on the Internet. Nothing will be hidden here. You can view the development of everything that is going on. End quote -Luc open source engineer and original inventor of the Ganga Shakti - Water Power concept*

Before experimentation please note the following advice provided by open source engineer Mart:

1. DANGEROUS – the circuit uses very high voltage so you need to be extra careful on this one.
2. FUN! But safety wins over fun. Trips to the hospital are no fun.
3. Wear some dark glasses before watching the sparks, don't hurt your eyes

Please take care of your eyes!!! Too much exposure to this spark will lead to eye damage. So wear UV protective shaded glasses when looking at the spark.

**Unless you are experienced and are aware of the components and their potential effects, please do not attempt to do this.** Batteries are capable of producing hydrogen; if too much voltage is applied to them they are able to spark internally. If this happens you will have exploding electrolyte (sulfuric acid) everywhere. **Please be safe and treat this experiment with respect. Do not attempt it unless you are a qualified electrician with adequate safety precautions in place.**

There is many phenomena present in this research device which given the current laws do not make sense. **Water can directly explode on demand with little energy input.** [This video](#) corroborates other observations claiming that the plasma spark intensifies with increased pressure of compression. **This contradicts the expected effect this isn't just any spark!.**

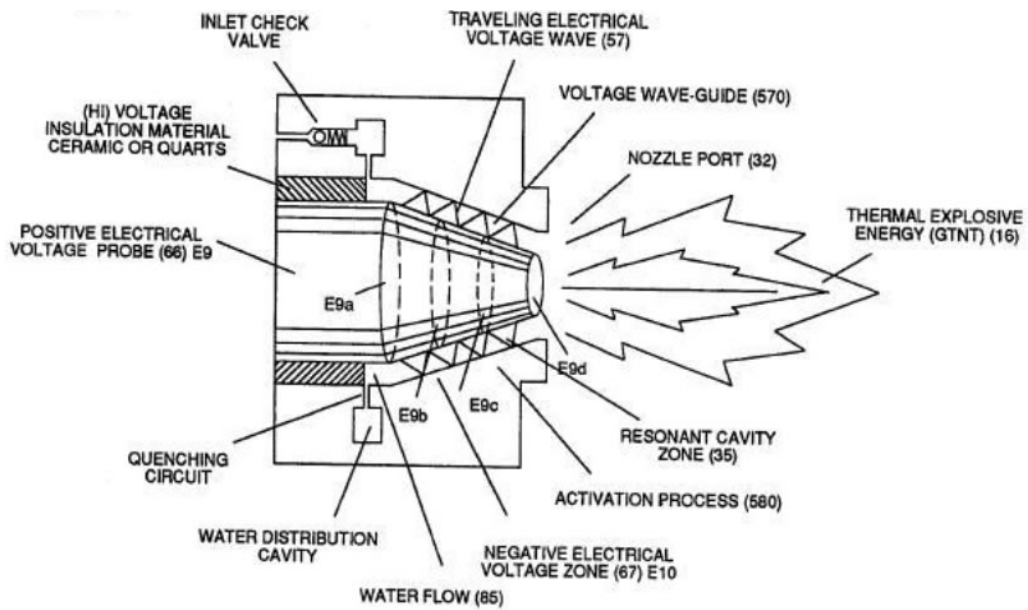
The water spark plug is currently at this time not running a house on free energy in a third world country, however there is awareness and lessons contained in this device waiting to be harnessed.

What direction is the application of this device heading? Currently it's heading towards a potential 100% water engine, plasma circuit, Firestorm spark plug duplication and much more. **Most will not be aware of the [plasma research](#) which has been already been accomplished- However today remains neglected unknown and suppressed.** Or the 100% water powered injection cars which have already been accomplished but remain suppressed.



[Stanley Meyers](#) 100% Water fuel injection system

The following is an extract taken from Stanley Meyers patent showing a cross section of the thermo explosive energy injector.



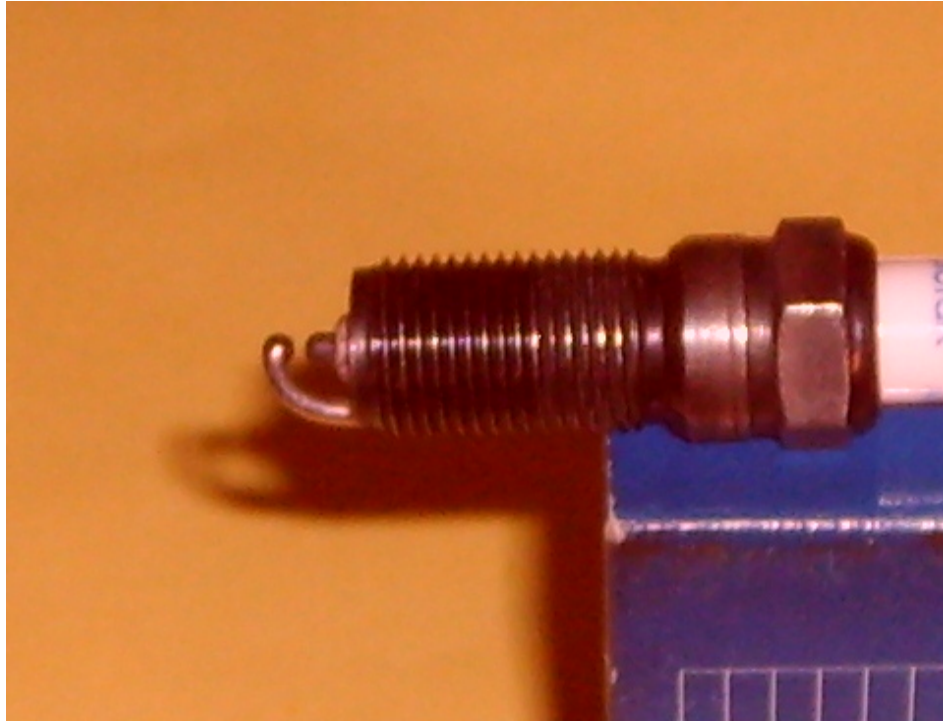
The next design was done by Hermen Anderson.



[Herman Anderson's](#) special patented 100% sparkplugs, similar to Stan Meyer's plugs

The general public are not be aware of the plasma plugs which have been available for over 18 years yet have never made their way into public hands. **Plasma spark plug technology can drastically reduce emissions and reduce fuel economy.** The first plug below was shown to us by Ian a resident of the UK.

*Quote- I made a ball tipped plug already in 1991. I suppose you are wondering why this was not mentioned years ago. I worked for the Ford motor company. I was not employed to develop spark plug technology. I just developed an idea, manufactured it, tested it in fords. The plug was great and not really any dearer to make. Upset a lot of people higher up. The plug is a double platinum ball tipped spark plug. - This Plug never got into public hands. Ian -End Quote*



Ian's platinum ball tip spark plug- Available since 1991!

The next plug is called the "FireStorm" spark plug which was developed by Robert Krupa. These plugs were used with a Crane Cams HI 6 CDI and PS91 coil. Tests which were conducted with the FireStorm plugs showed that they would never wear out.

Robert's first FireStorm plug was made in 1996 and he has encountered strong opposition to their introduction and manufacture ever since. Robert reports that he achieved a 44% MPG increase and reduced the emission by the same percentage by using these plugs. These results are nothing to take lightly. As of today both these plugs have never made it to the production line.

Krupa's patent is presently good till Aug. 18, 2018. It's already been 10 years since he had them patented.



Robert Kupra's plasma spark plug

The central electrode has been changed from a cylindrical post to a hemispherical dome, surrounded by four arched electrodes, each of which being positioned at a constant distance from the hemisphere. Nikola Tesla was using "orbs" on spark gaps

over a hundred years ago. He found that orbs hold the highest amount of charge. (sharp points holding the least).



A Fire Storm spark plug replication done for Panacea by [ROBIN DAVID](#)

The above fire storm replication plugs are made of [beryllium copper](#). Robin reports that he has run a set in his van. Robin has run have several hundred miles on them with no apparent problems, he is running a MSD ignition. The above plugs were also trialed by open source engineer Greg in his VW bug. **Greg reports his VW gained y 12%, but that was with a major modification of the ignition system.**

It is believed that Robert Kupra used crane cams HI 6 CDI and PS91 coil to fire his plugs. Some are also having success by fitting a HEI ignition, along with Brisk Premium LGS spark plugs and a set of homemade Kiker Wires.

Panacea also installed the above plugs on a vehicle. **This gave us a 6% gain; Panacea used only the standard ignition coil! This is a powerful testimony to the effectiveness of Robin's skilled replications and Kupra's plug concept in general.** Robin is now currently experimenting with chromium nickel for the new plugs. More suggestions to what alloy which could be more effective have been included on the faculty section below.





Robin's chromium nickel fire storm spark plug replication

For those wishing to replicate plasma spark plugs, please consult this document

[How to Make Plasma Plugs -PDF](#)

**Robert Krupa had his Firestorm plugs and plasma diver on an engine hooked to a Dyno and apparently had the computer program to its max at 30:1 air to fuel ratio and could not continue since the program was not designed to go any higher. The engine showed no signs of loss of power at this ratio; in fact he stated to see a 100HP gain and had to shut it down.**

The current "perfect fuel-air mixture" (stoichiometric ratio) is too hot for valves and valve seats, also it produces high concentrations of Oxides of Nitrogen so the mixture is rich to compensate. But now there are too many Hydrocarbons so you need a catalytic converter. Extra fuel was added to cool the cylinders then when emission standards came along they invented the catalytic converter, but the converter would not run hot enough so they added even MORE extra fuel to cool the cylinders AND keep the catalytic converter hot.

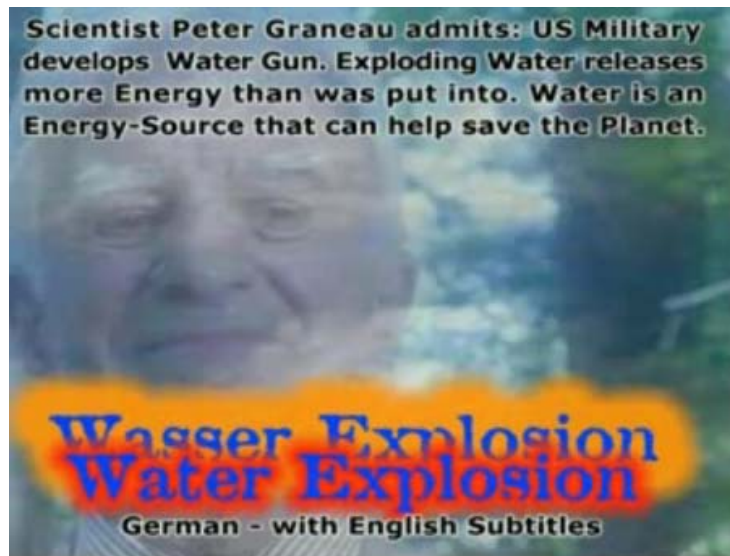
It's a counterproductive circle. A 30 MPG car could actually be getting 45 - 50 MPG! Amend them with the leanest mixture, plasma ignition, water injection, problems solved.

**Scientific studies confirm strong power and a CO-efficiency of performance of more than one from exploding water with an electric arc/spark.** Please refer to papers from Pr. Peter Graneau University of Oxford, Gary Johnson Kansas State University, George Hathaway, and Richard Hull.



Taken from Kramer's Watercar Project Technology Synopsis

The following video shows that water can explode when ignited with High Voltage. **The Explosion releases more energy than was put into.** There is ALLOT we do not yet know about water, new discoveries about water are being made which clearly shows that our perception of it is far from complete.



Video -[Wasser / Water Explosion - Free Energy](#)

Luc originally disclosed his finding on this interesting effect with the ultimate goal and hope for this technology is to run an engine on 100% water. Through collaborative effort, there have been quite a few developments to increase the strength of effect as well as efficiency.

Several very talented experimenters here have already put this ignition system into some vehicles and some gas generators. **The ignition system has proven to increase engine speed for the same amount of fuel giving evidence that this plasma is absolutely releasing more potential.** There have been reports of some plug wear in the nexus variant of the circuit, and Revizal's circuit (listed below). As of yet, no one has



experimented with using iridium or platinum plugs to deal with Spark plug wear. Additional information on addressing plug wear is included in the Suckewer patents listed in the faculty section below.

It has been shown in test done by Luc that for the same Joules of energy, a high voltage low current explodes water better than low voltage high current. And even though an arc is somewhat self-modulating, high voltage and low current produces less plug damage and less plug heating than low voltage and high current. At the very beginning the circuit was done using an inverter, the direction is now is to replace the inverter. Greg's VexUs circuit is the first to go in this direction. His VexUs circuit uses multiple parallel HV diodes, (4) per plug.

This circuit is running on his VW Bug, he does not use a commercial inverter. Greg built an inexpensive 2-transistor oscillator and the transformer in that circuit is 115VAC x 6.0VAC - CT - 6.0VAC x 0.3A run in reverse as a step up isolation transformer. Decoupling via some sort of isolation transformer is important in the VexUs circuit as well as the relationship between R1 and C1 and ignition frequency (circuit listed below). Greg also uses a voltage doubler producing 258VDC to the VexUs circuit. Input voltage is 12VDC.

**Recently Greg has recently moved onto a water injections system, (profiled below) he has gone from 20 MPH - 40 MPH.** This experimentation is an ongoing process and little by little the effect will become stronger and easier to replicate as well as being understood better. There will be gradual steps in the direction of 100% water fuel power and we're fortunate to have so much open source sharing of the progress that everyone is making.

Several have jumped onboard and continued the advancements. Greg's VexUs circuit (described below) currently is the easiest to apply to a vehicle and is still being tweaked. This is robust enough to experiment with. Now we need to invent some sort of combustion test bed. Something where we can test the power of mixtures, the differences between gaps and frequencies, differences with a booster kick. One individual has lined up a high speed video camera to look at the spark, but to really make an impact we need to zero in on the right spark, frequency, and fuel source. All are opening to ideas on simply, quantitative or even qualitative combustion tests.

The electronics side of the circuit is still being ironed out. We can do it in many ways but plug wear is going to be an important issue to deal with which will direct us to how the circuit may need to be. The next issue will be power consumption, to bring it to a minimal, which again will further the circuit. Once these are dealt with a layman's illustration circuit will be created that most anyone will be able to build and then those talented in the art or tuning a combustion engine will be able to take it to a super lean machine point.

This plasma is faster and takes up much, much more volume than a conventional spark. With super lean mixtures, the flame propagation speed is too slow to burn much but the plasma, it can fully burn a leaner mixture. This plasma does have a very interesting effect on plain water and it does appear to "crack" the water on contact, burn the hydrogen, then it recombines, which is explained very well in several patents including NASA developments on almost an identical method from the late 1970's. But, with enough punch on the low voltage side, the Lorentz force ejects this plasma away from the plug far into the combustion chamber. This ignition method was even shown to be able to run a gas motor with diesel! That is a very strong testimony to the power of this plasma.

Open source engineers like Aaron, Greg, Gotoluc, Calanan, Ossie and others have since shown interesting variations of the water plasma spark plug circuit. As Aaron an open source engineer has put it; **there are more and other enhancements which can be done**. There are many elements in this circuit to work with like gas pressure analogies, keep them in mind and you'll figure out more.

We need to continue our present direction in designing, improving and applying the plasma spark to water to release the energy in it necessary to drive a piston down in an internal combustion engine, AS WELL AS THE MULTITUDE OF OTHER APPLICATIONS to which this technology can be applied. We are definitely on to something here with LUC, Greg, Revizal, Ossie, qiman(Aaron), capacitor70, XBox, geovel56 and others actually doing experiments and coming up with real results.

There is a need for security and support outside of the normal corporate environment regarding alternative and suppressed free energy technology. Of the many past and present case files which illustrate this, in particular related to this research is the firestorm/Ian's spark plug.

If the [proposed granted Panacea institute](#) was in effect, all alternative and free energy technology which has political and economic conditions attached to it would be protected, any technology that is in danger of interference or lack of endorsement as a result of any corporate interest which feel that they could lose financially from having this environmentally sound technology in public hands would be protected.

In the case of Ian's and Roberts plugs, (just two examples of MANY others) the nonprofit organization with given resources would contract someone to produce these plugs as an environmental public service. Ask how else they will get them out there, and why they are not out there now, ask [why the NmHi batteries in the electric car were bought out by](#) and how else would these reach the public.

These engineers providing this research have worked on with no budget and are true to their word about open source disclosure. The Nonprofit organization Panacea-BOCAF

intends to support open source engineers working with this and other suppressed clean energy technologies. These engineers require grants, resources, faculty recognition and security. All this can be created in [Panacea's proposed granted research and development center](#). For those able to help this effort, please [Contact us](#).

Panacea was so impressed with all the group's efforts and research that it inspired us to put this video production together showing every ones collective efforts. This video also includes background information on plasma technology, suppressed plugs and offers a solution to the political and economic conditions.

[Panacea-BOCAF Plasma water spark plug production](#)

## Description



Original comments: "Ganga Shakti - Water Power"

[Original Video](#)

If this is the first time you are viewing this page I ask you to share this link immediately to everyone you have in your email address list and ask them to do the same no matter what you or they may think. We need to give this back to the World a.s.a.p. Next I ask everyone to stop experimenting if you can and help with this, since I believe it is the one of the most promising real effect at this time (that I know of) that is fully shared on the Internet. Nothing will be hidden here. You can view the development of everything that is going on.

Now let me give you some background on this. For a couple of years now I was a member of a Yahoo Group called: WaterFuel1978. At this group user name: s1r9a9m9

claims to have one of his cars working on water and says that one of the parts he uses to do this is an inverter and also some relays. However, no one to date has been able to replicate it and the site dates back since, Jul 30, 2005. On or around June 25th, 2008 s1r9a9m9 posted 2 videos on you tube to show a 18HP one cylinder engine running on water. The video is quite convincing, however he is hiding the important parts to make this work.

After seeing the videos I posted this message to s1r9a9m9 at the WaterFuel1978 Group:  
*Dear S1R, thank you for the 2 videos which now would make it very hard to say it does not work. However it is a sad day to think of the years that passed by and our World is getting wasted by these greedy fossil fuel controllers and to think that all this time you have been a chosen one to put the pieces together that could change all that... and what do you do with it, hide it, just as they do.*

*All gift of knowledge comes from one place and it is testing man to see what he does with it. All that is good to help keep balance is meant to be shared with all...just as the structure of the Universe keeps balance and is giving. When one stops the flow that would be good for Billions of others I would think of that as a great sin and your life could be in much greater danger than you think. All who have tried to control their inventions that could of made our World a better place have lost their life over it or have been bought out just to hide the information. I'm sure Stanley Meyer would do it differently if he had a second chance but it's too late when you're dead and the knowledge is lost.*

*Hiding things will not protect you, sharing will...since you will be welcomed in all the homes of America and the World as a Hero. Now that is protection if you think you need it. By hiding things you are doing exactly as they want and that makes a small target for them since it is not spread out and can be easily extinguished, 99.99% of the World won't even know it has happen.*

*You chose your destiny. But I am here to help you in every way I humanly can and I think many others who are here are ready to do the same. I hope this time we can do it all together, united we stand, divided we. End*

I have believed for many years that water could be used as a fuel. The next day I posted the message to s1r9a9m9 I started replication attempts of his system and while working on it I accidentally shorted the DC side of the bridge rectifier and saw a flame spark which made me think of plasma. So I tried many different circuit possibilities to try and incorporate this short circuit effect when the high voltage spark jumped the gap. After 2 days of work I came up with a very simple circuit which is posted at the bottom of this page. I had to work hard to make the circuit so simple since our minds think

something like this should be complicated, so don't come to the conclusion that something so simple will not work **until you try it**. At the bottom is my original circuit but I updated the diode part number and the quantity thanks to user name: callanan's added his improvement ideas. His circuit is more complex than mine and could work for you if you are advanced enough in electronics but one way or the other I would recommend (if you want to replicate) that you start with the simple circuit first and after seeing the effect you can add the extra components if you wish. Please note that I believe both circuits give the same effect.

Also, please note that most Spark plug have a resistance in them which needs to be removed. In many models of Spark Plugs you can remove the resistor by heating up the ceramic around the top electrode to unlock the seal and then unscrew it and remove the resistor and spring and replace it with a piece of 10 gauge copper wire or 3 pieces of 14 gauge regular home copper wiring to complete the contact. Make sure the wire you added touches the top electrode **just before** it sets when you are screwing it back in. The gap of the plug can be standard but you could play with it after a successful replication and see what it does. We will be testing all these things and updating this page with the most current information, so keep checking this page for updates.

A note about the video above. I realized only after seeing the video that you cannot see the complete flame that I was seeing when doing the demonstration video. There is an orange red glow around the spark when the water explodes which the video does not pick-up. Also take note that not much water is needed to see the glow and you can kill the effect if you add too much water mist. Thank you for looking and please remember to Share. – Luc End

There have since been a few experimenters like Aaron, Dr Peter Lindermann and others investigating the anomalies, these are included in the faculty information section. More of these results will be added into this document, if you discover any please send them to us.

## Replication

*Replicate first, observe the effect then add one change at a time and if you find an improvement please post your finding. Other than that we will lose focus. –Luc*

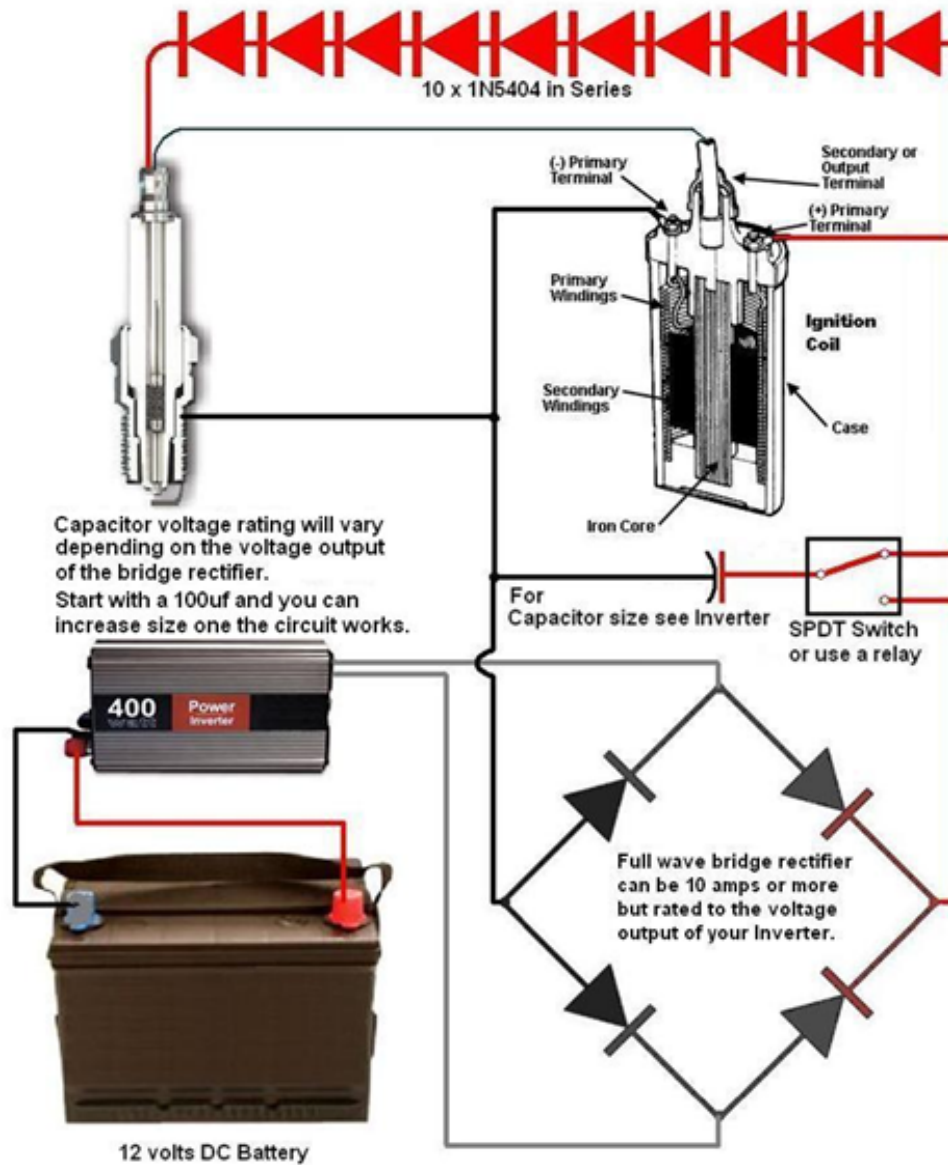
**Through a collaborative effort**, there have been quite a few developments to increase the strength of effect as well as efficiency. Several very talented experimenters here have already put this ignition system into some vehicles and some gas generators.

The ignition system has proven to increase engine speed for the same amount of fuel giving evidence that this plasma absolutely is releasing more potential. This experimentation is an ongoing process and little by little the effect will become stronger

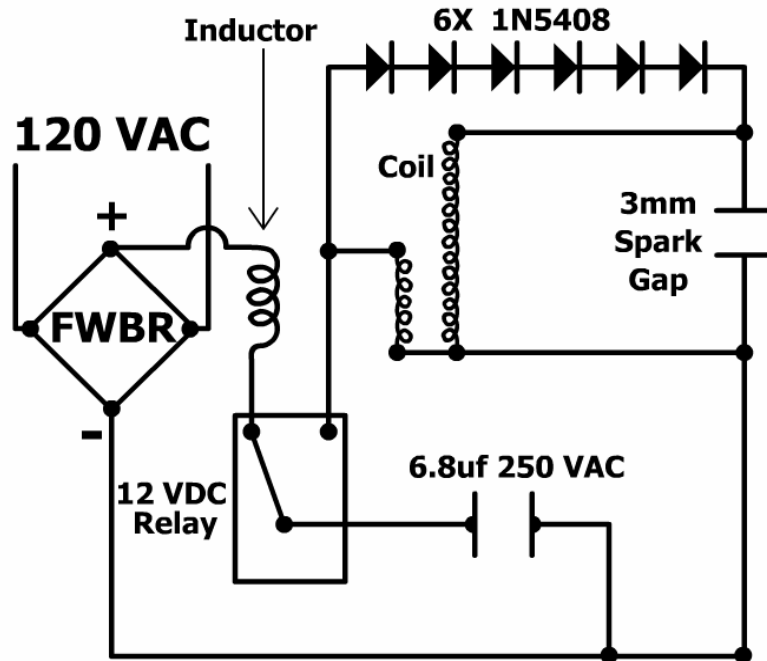
and easier to replicate as well as being understood better. There will be gradual steps in the direction of 100% water fuel power and we're fortunate to have so much opened sharing of the progress that everyone is making.

Original Ganga Shakti - Water Fuel Circuit

**Updated July 13th, 2008**







The Full Wave Bridge Rectifier is a standard off the shelf item 400v 5 amps or more if you wish. The Air Core Charge Inductor I made is from a primary of a MOT that I cut out and recoiled it. The Inductor center opening is 38mm. The O.D. is 60mm and the width is 40mm. From what I can tell the Mag Wire is about 14 Gauge. The coils DC resistance is 0.4 Ohms and measures 2.23mH on my inductance meter.

The Relay is an Automotive 12vdc relay rated 40A/30A which is SPDT . I did not show the relay coil in the diagram since the black marker I was using is too large to show details. The relays rest position is on the bridge to cap. I use a 12vdc battery to activate the relay coil to discharge the cap to the coil and diode string.

The Capacitor is 6.8uf 250 AC (non polarized). I got this cap out of an old heavy wood 30" color TV unit. I don't know why but this cap takes the best peak charges and gives an amazing bang for its uF size Huh My capacitance meter says it is 6.9uf but gives the same kind of bang as my 22uf 350v polarized, which I also check on meter and it is actually 26uf. I don't understand that.

The Coil is an Automotive Coil made by Accel part no. 8140C. The Primary DC resistance is 1.3 Ohms and measures 6.46mH on inductance meter. Secondary DC resistance is 9.10 K Ohms and I cannot measure H on my meter. The Diodes are a string of 6 of 1N5408 in series and are rated at 1000 volts at 3A each.

The Spark Plug used for spark gap is from a 3HP gas lawn mower engine that will be used for testing the circuit. Modifications to the plug are: I cut off the J electrode and also filed down the center electrode so both are at same level. With this mod the Plug

now has a 3mm gap. The plugs internal resistor has been removed and replaced with 3 pcs of correct length 14 gauge solid copper wire to complete the contact.

Currently the circuit is being experimented with for plasma ignition; tests have been done showing an improvement of fuel combustion!

### CDI Circuits by Greg (gmeast)

**\*\*\*HIGH VOLTAGE\*\*\*please be careful with ALL of this.**

*There is a very high probability that I have been producing an appreciable amount of Hydroxy Gas in real time. That would be one factor that could account for the drastic mileage benefit. The combination of Hydroxy coupled with complete combustion by plasma spark could be what's accounted for my test results.-Greg*

### Fire Storm spark plugs tests



Taken from the Video

Greg reports that these plugs run a cold, un-choked engine all by themselves almost as good as a regular plug fired with a plasma circuit. With the plasma circuit is saw more improvement. The following is a short video showing a Firestorm spark plug replication being fired by the VexUs Hybrid Plasma CDI Water Spark Plug circuit. The Firestorm replication was generously supplied by Robin David. This spark plug needs promotion. Search "Firestorm spark plug" and learn.

[VexUs circuit firing Firestorm spark plug replication](#)

The following video shows induction ignition firing a Firestorm replica built by Robin David. Video shows plug being fired at atmospheric and at pressure (125 psi) by induction coil only and also by VexUs plasma circuit. This video also demonstrates the plugs capability to produce its own plasma arc(s) with only simple induction coil and distributor.

#### [Nickel pressure](#)

Greg was very surprised to see the white plasma produced by this plug under pressure WITHOUT the need for a plasma circuit driver of any kind. The bright intermittent flashes when I cycled the VexUs circuit were undoubtedly moisture from the air supply line being exploded by the plasma - enhanced by the VexUs circuit driver.

#### [Nickel VexUs H2O](#)

This video shows new nickel Firestorm spark plug fired by standard induction coil at atmospheric pressure and also by the VexUs circuit. In the video it shows the VexUs circuit exploding water spray during operation. There is an intensely luminous plasma arc created by the VexUs Hybrid CDI Plasma Circuit.

#### **Water spark plug + steam test begins**

*I have had the Water Spark Plug circuit in my VW Bug since October of 2008. I have been ingesting hot steam (recouped from exhaust heat) with standard configuration non-resistor plugs. My mileage went from 25 MPG to almost 37 MPG and without the characteristic old air cooled VW engine exhaust stink. Surprised the hell out of me for sure. The video shows some new types of plugs supplied to me that I will soon begin testing. -Greg*

I have tried water mist before and got nothing. I truly believe the fact that I aspirated 'steam' has a great deal to do with an increased thermal efficiency which accounted for the increase in mileage.

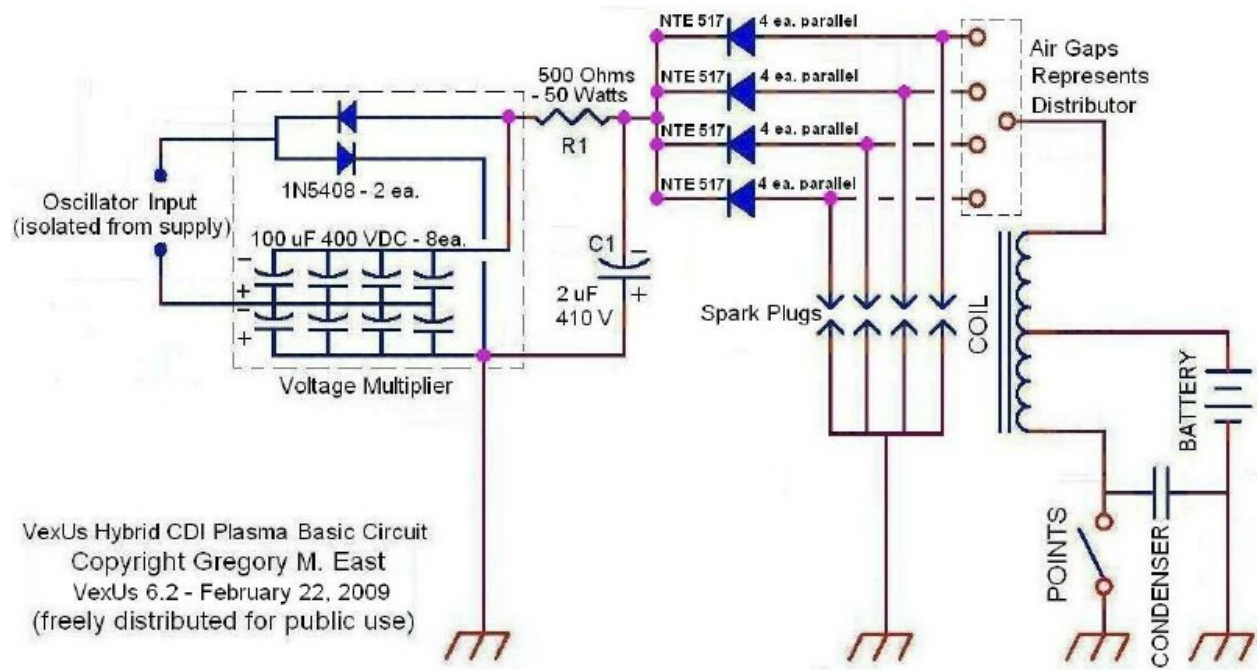
If I may present the scenario:I recuperate waste heat by turning water into steam. By doing this, I avoid the conversion penalty associated with the 'heat of fusion' ... that is the heat a substance, in this case water, absorbs before it changes state, in this case water to steam. This heat energy can't be recovered with a condenser ... it is therefore a penalty ... the 'steam penalty'. But I do this external to the process with (otherwise) waste heat. With the steam (gas) combined with the air and fuel, ignition occurs (thanks to the intense plasma spark) and the combustion heats up 'both' the steam and the air, but the steam is like an inert component that can absorb allot of energy. So it does and generates pressure in exchange. The pressure from both the air/fuel and the steam is about the same as it would be by just the air/fuel itself because it at a lower

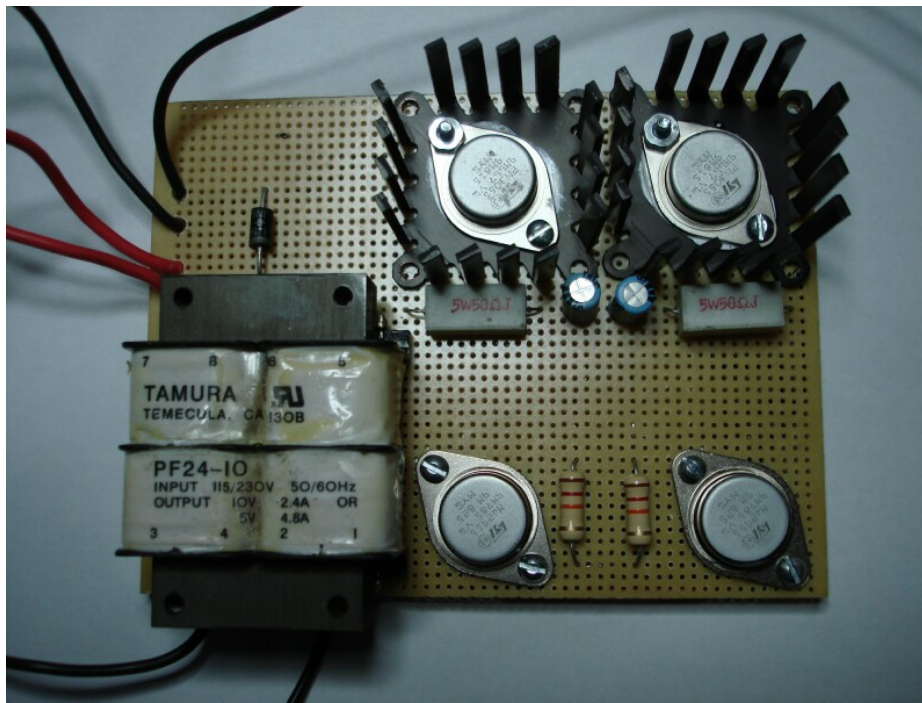
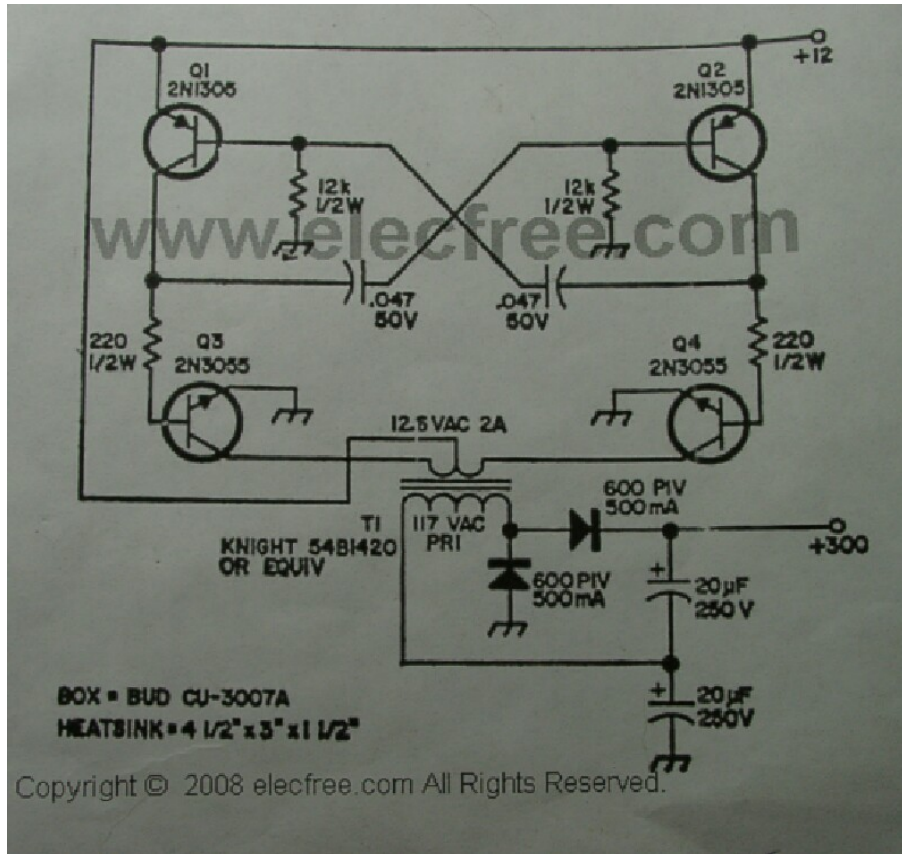
temperature. This is where the increase in thermal efficiency comes in ... it is a system thing:

The pressure ratio (compression ratio) is the same. The efficiency of the energy extraction (power stroke) is thus the same  $(p_1 - p_2)/p_1$  ... if the ending pressure  $p_2$  is much, much less than the starting pressure  $p_1$ , then the efficiency is high (that's why a high compression engine is efficient). The same is said for temperature  $(t_1 - t_2)/t_1$ . But what does this do for us? Well - the engine runs cooler with more energy being converted to output power because FAR, FAR less heat is being rejected from cooling the engine.

In my tests, after the engine warms up, you can place any cold plate at the exhaust and the condensation is about 3 - 4 times the amount of water as usual. The EGT is also cooler by at least 200 Deg F. But you don't get consistent running unless you use a plasma spark. I can run so much water (in the form of steam) that the normal spark will misfire. There is some inherent fuel/air leaning going on here also. If I aspirate the steam after the venturi, then the fuel/air ratio won't be affected ...this is my next step. BUT YOU NEED A PLASMA SPARK TO DO THIS.

### Vexus 6.2





Comment on the oscillator circuit, there is a reason why the diodes point the way they do. There is also a reason why the AC supply must have an isolation transformer into the



circuit. This holds true even if you are using a full wave bridge instead of a voltage doublers. The transformer of the simple oscillator/inverter I use automatically isolates for me. My ignition is a stock coil, negative ground, negative switched, positive from the ignition switch ... like most other systems. I'm sorry to say I never analyzed this circuit for a BS engine; I slapped the thing right on my Bug from the get-go. Of course you remember how it fried inverters which led to a long journey to find a simple oscillator circuit that wouldn't blow up .

What's installed in the Bug consists of the new nickel Krupa plugs and the following:

\*presently using 2uF CDI cap, 2000uF front end (or back end) cap

\*single spark plug shown ... just multiply in parallel ... common diodes then go to R1 / C1

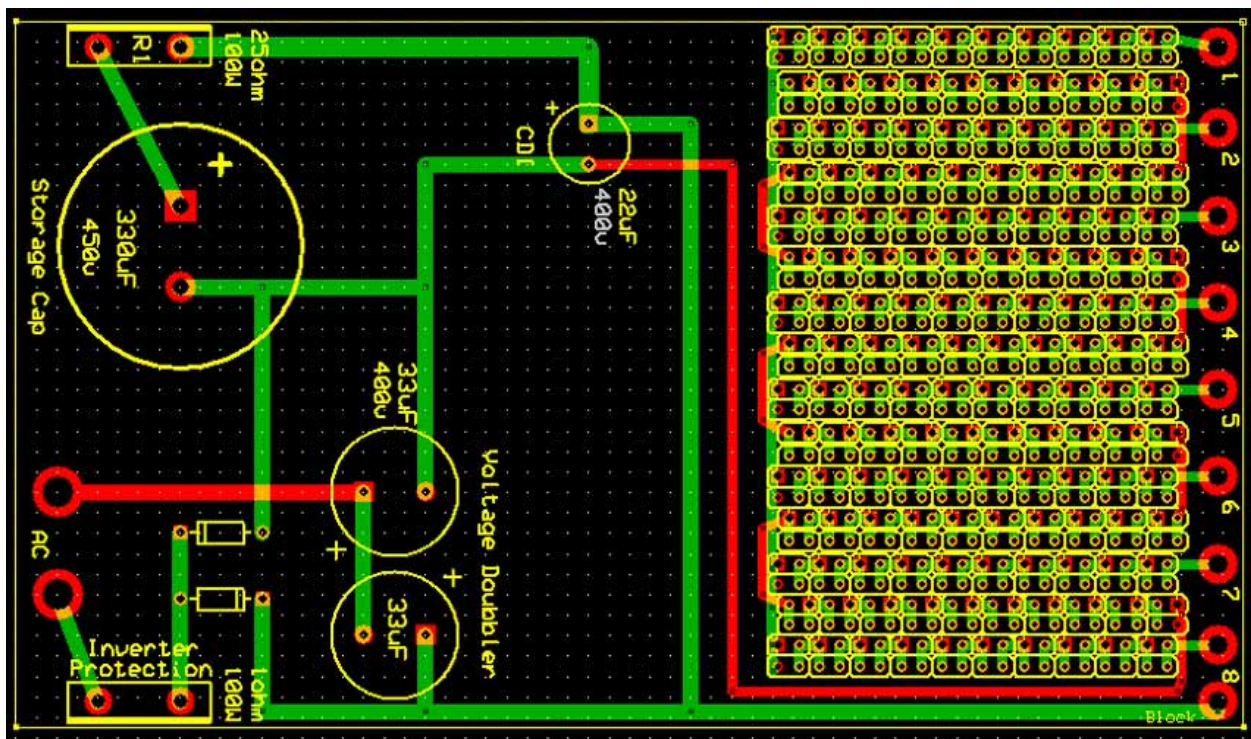
\*there is an "on-off" knife switch in common diode line going to R1 / C1

\*4 ea. NTE517's in parallel each plug

\*space upper-left and lower-center for fans (not shown)

\*caps are 1uF

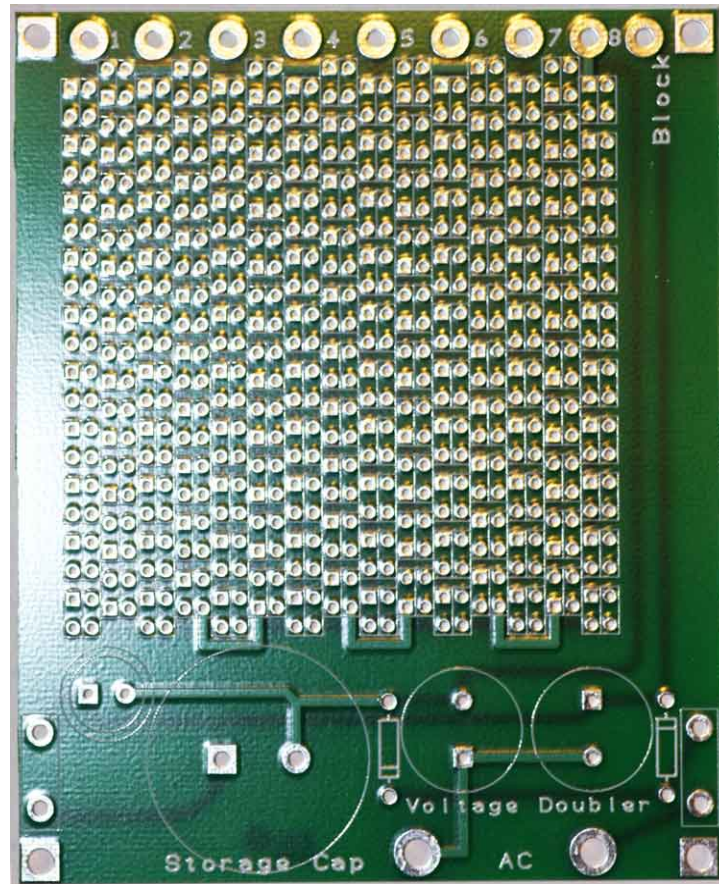
### Board lay out



Greg ended up using an oil filled CDI Cap ( 1 to 2 uF) because every other kind he used would overheat and blow up. The doubler caps can also get hot depending on



the frequency and power throughput. Most of these things show up when the board is run and put under a continuous load.



Vexus PCB thanks to Shane

The boards are \$32 shipped. Here's a link: [FacetRough.com](http://FacetRough.com)

### **Background**

More pictures of the Bug and test report of the initial test are from pp 15 - 23. The newer more efficient oscillator is on pp 24 [in this thread](#) on the [energetic forum](#). The plasma spark plug effect can't be achieved with resistor type noise suppression plugs as far as anyone presently knows.

I completed my first test run. I drove 300 miles. 65% of that was freeway miles at 55 MPH. The rest was around town, stop and go, my guess is average about 20 MPH - 40 MPH. I want to say that the factory hype for this vehicle with the stock 1200 CC engine was 31.5 MPG (U.S.). I had the engine rebuilt - new jugs and pistons - which made it 1300 CC - a bigger engine with much more power - same carb as for the 1200 CC. During the test I ran the Vexus Circuit with its own Oscillator and Voltage Multiplier (doubler). I also

made a water drip system that forced steam to be aspirated into the carburetor at a set rate (Bug-on-I-V).I topped the tank off with 8.44 Gallons of regular gasoline.

Do the math. Not only did we beat the factory estimate by 13% for the stock 1200 CC engine, we beat it with an even bigger, more powerful 1300 CC engine. We also beat the best mileage I ever got on this engine by 43 %!

Spark Plugs:I did NOT use new spark plugs for this test. The plugs in it are the ones I've been using all along for the bench tests and Vexus Circuit development (in vehicle). I have no real estimate of the 'abuse' miles on these plugs.I have included a photo of the #1 spark plug alongside a new plug. There HAS been wear, so this needs attention ... maybe a different electrode configuration. The left hand plug is from the bug and gauges at 0.041" and the new plug gauges at 0.029".This test has been conclusive on several fronts ... at least for me. PLASMA RULES !!!

I built and installed a water system today. It is very simple and introduces hot steam into the inlet air. This keeps the inlet air warm- guaranteeing good mixing between the air, gas vapor and steam water vapor. I did some highway driving and more back road and around-town driving before topping off the fuel tank and taking the odometer reading. Of course I checked the plasma system to make sure all was fine with that too.The water addition rate is about 2 drips every 3 seconds. For the record my odometer reading is 35987. I have no idea how many times it has actually flipped. Below are (6) pictures of the installation.



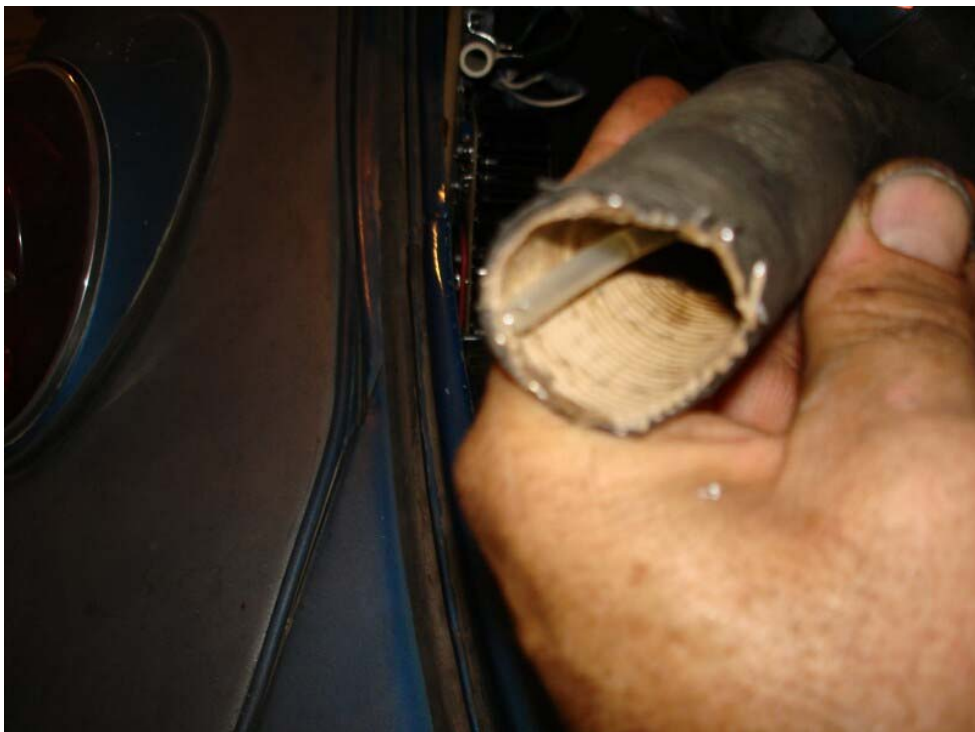




Shows sight glass (vinyl really) & needle valve above



Shows water line entering hot carburetor air inlet tube



shows the hot exhaust pipe that the water drips onto



End

### Revival circuits

#### Plasma Oscillator works on motorbike

Many experimenters have previously fried their inverter when working with the plasma booster ignition project. This homemade oscillator is used to alternate inverter to charge the plasma capacitor. I used 2 A transformer to charge 9.9 uF cap to create a plasma booster on my Yamaha Mio. It worked well and did not get hot at all. This setup makes us possible to run a motorbike with plasma booster ignition to get better MPG and power.

#### [Plasma Oscillator works on motorbike](#)

### GEET/Hybrid

Background on the GEET technology can be found on the panacea university site under: Paul Pantone's GEET technology (PDF) - Fuel reforming method for fuel saving and reduction of pollution. Energy saving & pollution cutting applications include: cars, tractors, trucks, generators, boats, helicopters, any Internal Combustion Engine application.

**Do not forget to add diodes string in front of your original ignition, because it won't work like a distributor equipped. I mean, just use Tero's Plasma Circuit (like done on my**



Motorcycle circuit) for one cylinder engine which switching by magneto instead of distributor equipped.

Today I tested the plasma effect on gasoline vapor. I made an apparatus that make me able to introduce plasma to gasoline vapor flow before burned. I used self pulsed DPDT relay to simulate engine RPM approx 30 Hz. This below the link:

[YouTube - Plasma Effect on Gasoline Vapour](#)



I believe with appropriate process we can crack a long chain HC to get better combustion. Or we can increase the octant number of gasoline (because gasoline easier to vaporize and pass the catalyst by engine's vacuum) before entering plasma ignition zone. But yes, cracking diesel is better than gasoline. I'm still thinking the best way to vaporize diesel and the setup will be:

Diesel vapor ==> thermal catalyst ==> leaner AFR ==> plasma ignition

or even:

water vapor ==> thermal catalyst ==> leaner AFR ==> plasma ignition

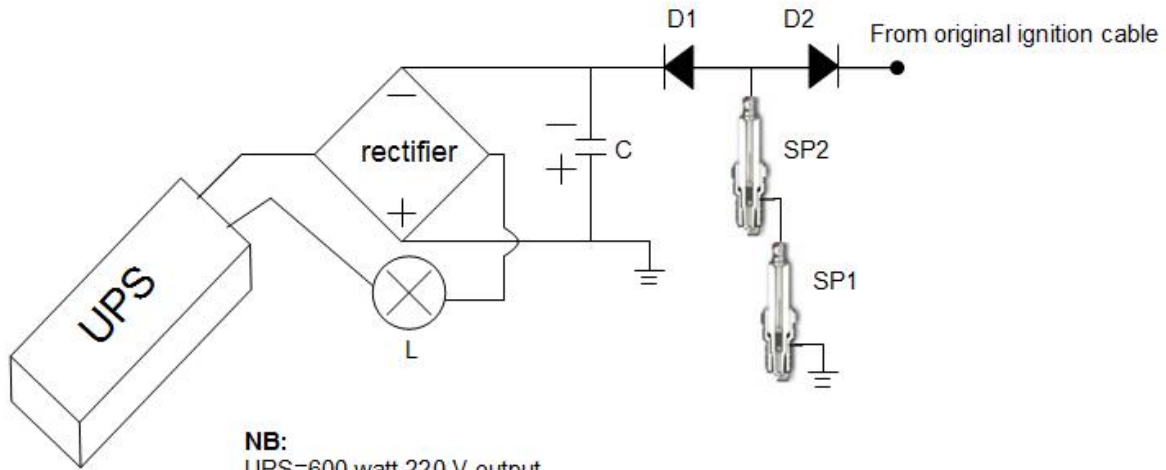
I think the closest point that we will catch is getting better MPG.

[Mixed GEET-PLASMA on genset](#)

**Simple Motor Bike circuit**



[YouTube - Motorcycle Running on Plasma Ignition](#)



**NB:**

UPS=600 watt 220 V output

Rectifier = 35 A 1000 V

C = 47 uF 250 V, (+) grounded to engine block

D1=D2= 16x 1N5408

L=Bulb 100 watt

SP1=Non Resistor Plug (grounded to engine block)

SP2=Non Resistor Plug (to view spark effect)

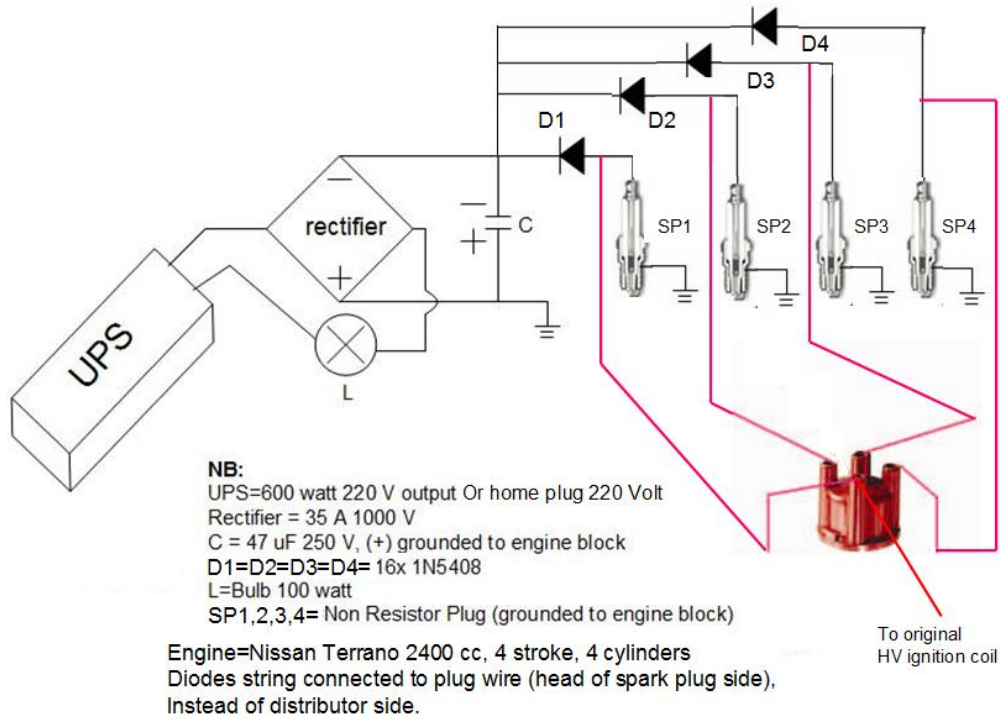
Engine=Yamaha Mio Matic w/ kick and electric starter 4 stroke 113 cc

Before installation I tested the D1 and D2 to Gotoluc plasma circuit separately.

Once D1 and D2 worked, I used both to above engine.

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**Vexus Plasma Booster on SUV**



[YouTube - Vexus on SUV \(explanation\)](#)

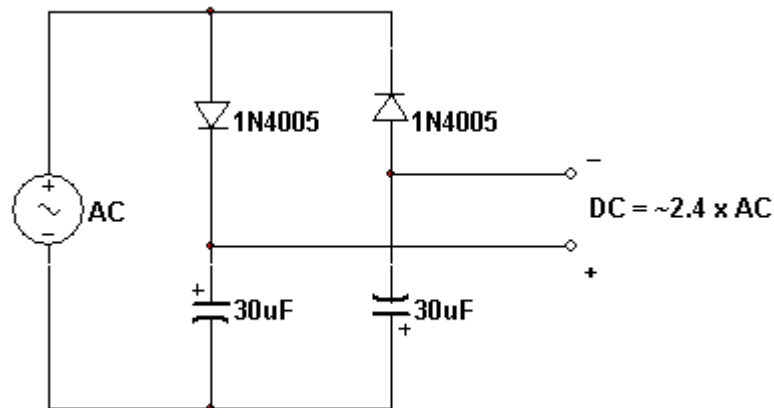
I completed a driving test on my Nissan Terrano. I drove for about 30 minutes with no problem (no melting component, no distortion on car audio, no heat on the UPS).

[Water Spark Plug-Test Driving](#)

Panacea conducted some tests running this circuit with the [water fuel for all](#) hydroxy booster. It had been found that after an average of 50 minutes driving a day for 6 days that was some slight plug wear.



However, we find that this circuit still has its usefulness to start a car in winter. Even if they didn't run the circuit all the time and just bi-passed it after starting, Greg has already showed us how useful his VexUs circuit it is by being able to start with no choke etc. The next testing direction will be to replace the inverter. The following schematic has been provided by Luc. This will be the starting point for experimentation.



Note:

100 watt light bulb in series on the AC side

voltage doubler - 2 X 30uf 400 volts

50 uf 800 volts storage cap

There was a 3Kohm 30 watt resistor in series between the storage and dump cap  
5uf 800 volts dump cap they charge 600 volts  
240 volt inverter but was running at 60 hertz

**Dump cap exploded after 10 minutes driving and there was no significant difference in engine performance beforehand.** The explosion of the dump caps may have been a result of an insufficient current surge rating on first stage of every discharge. May need an electric motor starter rated capacitor. Also Andrew has dropped down the cap values in Rev's circuit and states there has not been any ore wear then normal after week of driving, , i will take a closer look at the plugs at the end of the weeks guys.

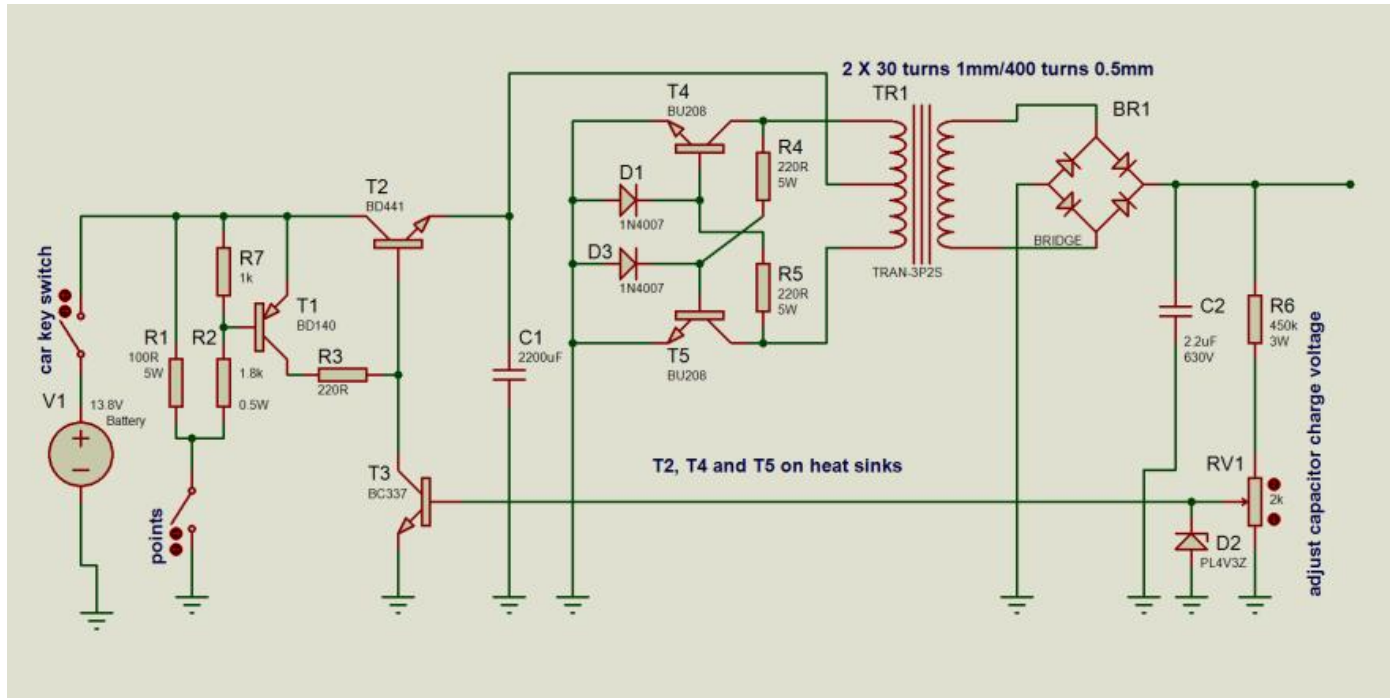
Further testing continued with us switching over to the super deluxe booster (Wouters - 3LPM at 30amps) and have had these plugs using Rev'z circuit just over 4 weeks. Using the circuit with the hydroxy the first circuit was using Rev's normal configuration (50uF), we found a tiny bit of where. The second one, we use put the cap value down to 20uF.



### Kinetix Oscillator

I do not know the efficiency, maybe some values could be modified (C1, R4, R5 or C2) but I remember I made it and it worked. You also may try other types of NPN power transistors (e.g BU526A, 2N3055, etc.). Some of them will work better, some worse. Oscilator will charge the capacitor C2 only when points are closed. So you don't need

a power resistor or bulb to limit the current while capacitor discharges. Anyway, if you like the bulb setup more, the schematic can be modified accordingly.

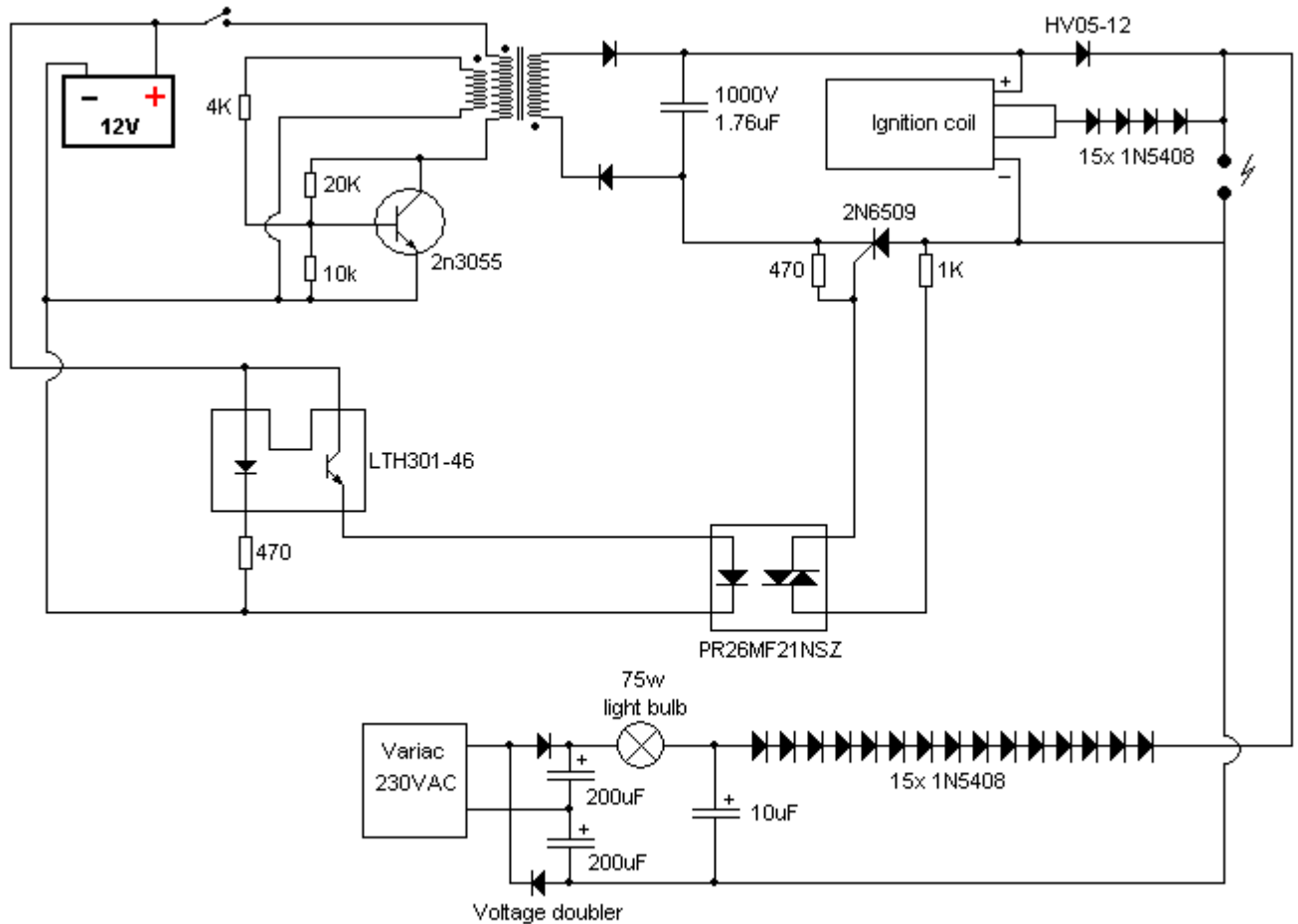


### Jetijs research

Jetis has found some very interesting anomalies in the operation of the circuit, especially in his configuration where the diodes already form the basic water spark circuit by blocking the ignition coil negative HV output to ground, and effect of increased RPM happens only if the quadrupler is connected to the variac. The variac is not plugged in! More information is included in the faculty section under "jetijs research.

I just tried my generator setup using a voltage doubler for my 230VAC input. That is about 650V on the output. Works fine. I used a 75w light bulb as a resistor. At first I made a test with no vexus circuit attached, no booster side, just an ordinary spark. I made the test for longer time to get more accurate results. The ordinary spark circuit did consume all the fuel in 45m40S. Then I attached the vexus circuit with a voltage doubler. I also attached a microwave diode connecting the ignition coils LV positive to the HV output. And I attached a diode string in series with the ignition coil secondary to prevent the booster cap discharge through the secondary in between the pulses. This is the circuit that I used:





Now using the same load and timings, it took 49m14s till the same amount of fuel was consumed. That is about the same percentage (7%-7.5%) of fuel economy as without using the voltage doublers (just about 300V on the booster side). So there you have it.

### Bill Cozzolino's NEXUS PLASMA ARC CIRCUIT

**Note- THIS IS A SIMILAR PROCESS- HOWEVER NOT THE SAME AS THE ORIGINAL WATER SPARK CIRCUIT. Care must be taken to make sure you do not damage your inverter.**

[Email](#) - [Web site](#)

I have found a way to introduce a high current plasma arc into the HV spark from a coil. I now have my 76 VW 2 LTR with all four plugs running on the arc, and although it will not run very well on just water, it is a breakthrough and just the arc increases the power quite nicely.

The circuit is very simple and very cheap. I don't think it will cost 20 or 30 bucks to build. Except for the diodes, I used parts I had laying around, so I can't give an exact

estimate, but I can say it ain't rocket science and it is cheap and easy with no exotic circuits.

I am using an inverter with a half wave rectifier and the thing is, I don't find any current draw anywhere in the system when the arc is created. As I said, it is on the vehicle and running, but I show no draw on my rectifier, so where the heck is the current coming from?

This is a basic 'lightning and thunder' operation, and as you may know, the current in lightning bolt does not come from clouds 'rubbing together'. There is simply no mechanical means for clouds to generate that current. It arrives from the void, through the nexus in the dipole, and that's why we see those sprites. The current in this device arrives in the same fashion. The DC simply establishes a dipole across the plug gap, and when the HV hits the gap, the nexus and the energy from the void is available.

Original -[Video](#)

[PDF- The Nexus files](#)

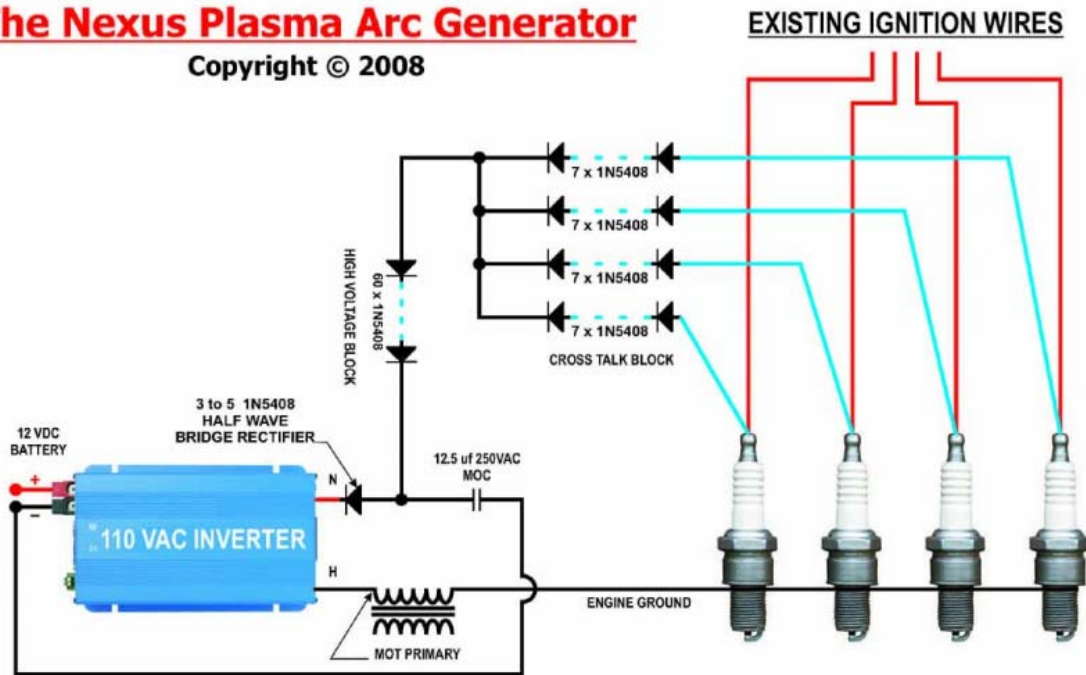
Bill has since reported that he has an increase in MPG, and wishes to do more R and to reduce some plasma welding ARC wear and tear on the plugs, please visit his web site for [the new video results](#).

#### **UPDATED NEXUS PLASMA ARC CIRCUIT-By lapperll**

I have updated Bill's Nexus circuit and received his blessing. He stated that he is using a 2,500 watt Cobra inverter but is only drawing 100ma so a large inverter is not necessary. He also stated that the capacitor that he is using is from a very old and heavy microwave oven and he has not tried a more modern cap to see if it would work, but he will when he returns from vacation. I am also planning on testing a modern MOC (.95uf 2000vac) and will publish my findings.

# The Nexus Plasma Arc Generator

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I finally received my isolation transformer today and performed some testing. I first tested the circuit with an isolated battery to ensure that the inverter primaries were isolated from it's secondaries. It worked just as I expected. The hot side of the inverters output is totally isolated from the vehicle battery, the neutral side still reads 120 VAC but I guess it should seeing that it is tied to the vehicle ground. So when I tested the circuit on the vehicle battery, the inverter held up just fine. I was a little worried due to all of the TVS use that has been going on, but I figured what the hell I'll give it a try. It did not seem to affect the inverter, but I was only running one plug. Just for safety sake, I think I will order TVS's just to make sure.

I also replaced the MOT with an electric motor coil that I got out of the fan in the microwave. The spark was not as great, but that should be due to the fact that the MOT has 0.7 ohms of resistance and the little coil has 103.7 ohms of resistance. The little coil worked just fine and of course is 10 time smaller.

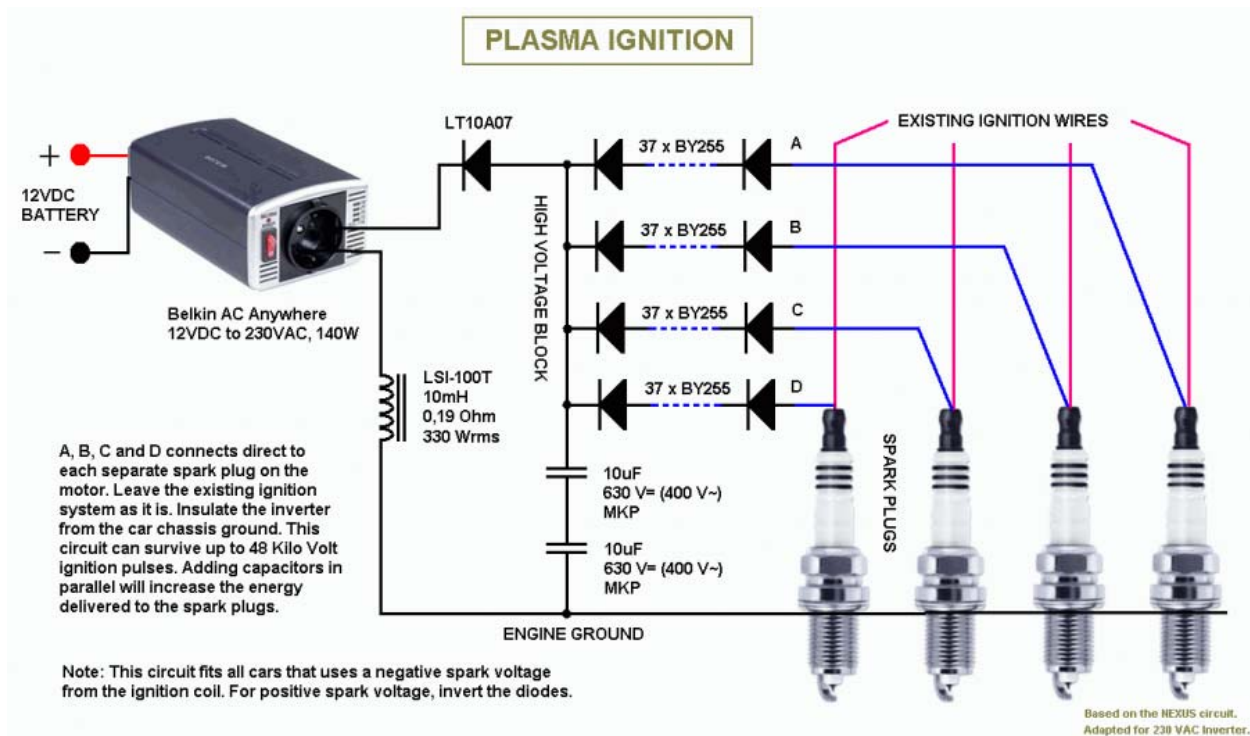
I only used 15 diodes in this test because of just testing one plug, and that also worked fine. I found a neat way of packaging the diodes. I soldered them all together covered them in liquid electric tape, then folded them and wrapped them in heat shrink. Works great and a lot smaller package I have posted a couple of pictures before and after the shrink wrap. Next step is to install this on all four plugs and see how she runs.

LapperLL - [installed Nexus circuit in vehicle](#)

[YouTube - Nexus Circuit Test Two.AVI](#)

## Alex's (Groundloop)circuit

### Preliminary



The plasma ignition works like this: The existing ignition system on your car provides a high voltage spark to the plugs. The plasma add on uses diodes to insulate the spark plug from each other and to insulate the inverter from the high voltage. The coil will when fired provide a very high voltage to the plugs.

When that voltage has fallen to a low value then the diodes will open and discharge the capacitor into the plug. This will add energy to the plug and the plasma spark is created. See the below drawing on how to connect everything to your motor. You do not have to make any changes to your existing ignition system.

I have studied the car ignition coil system a bit and have come to the following conclusion: The coil consist of one coil with a tapping for the +12 volt (few turns) near the ground. The coil ratio at the +12 volt is approx. 1:100. At first we charge the coil with +12 volt. At this moment the high part of the coil puts out approx. 1000 volt positive pulse. This pulse is too low to give a spark. Then we open the switch (mechanical or electronic) and the coil goes high Q and flips around to give a high negative pulse around 45 kilo volt to the spark plugs.

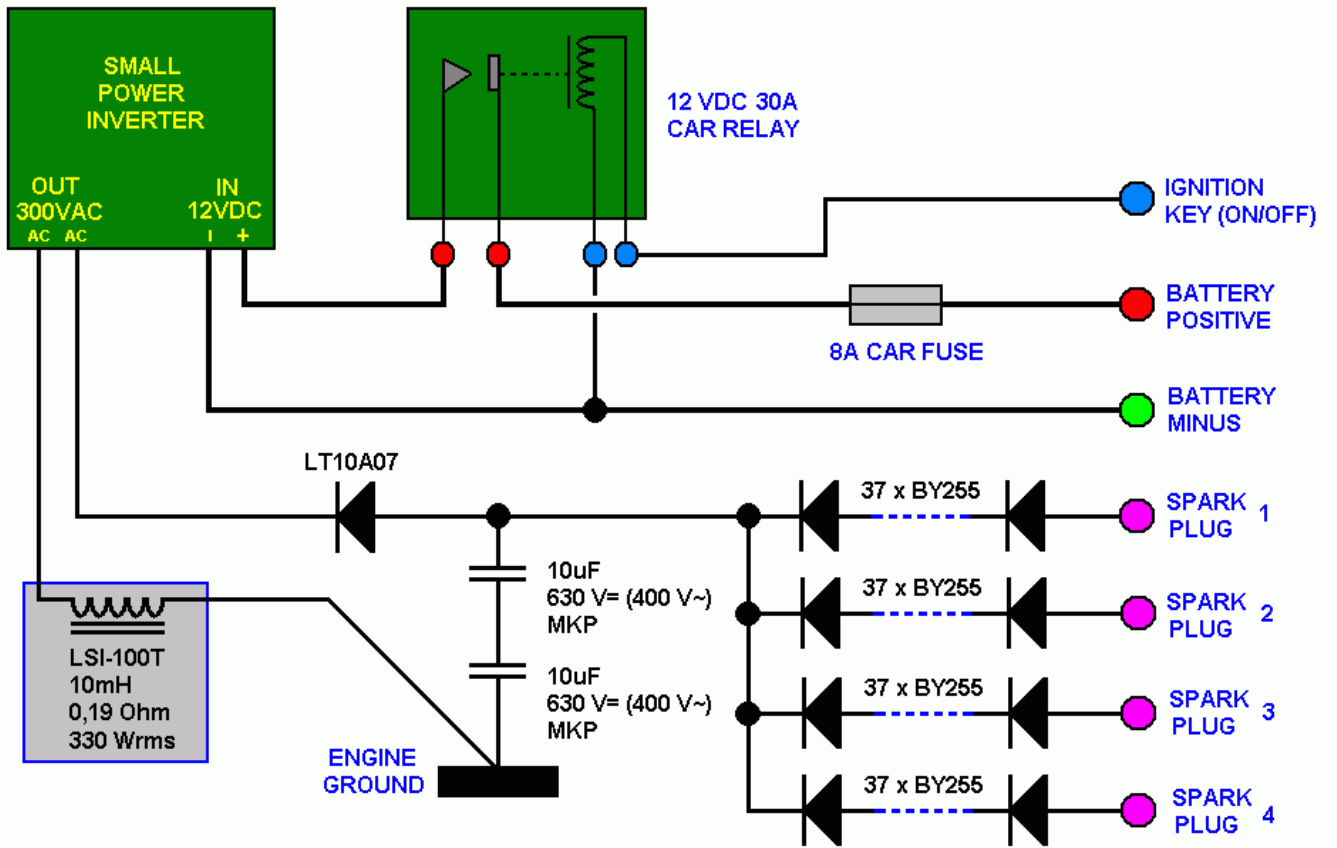
I have designed a plasma circuit that can tolerate up to 48 kilo volt based on this knowledge. In my circuit I use the BY255 diode (rated 1300 volt 3 ampere). I use high voltage capacitors to make sure that the capacitors can survive the first high positive coil pulse. The BY255 is inexpensive so I just made four strings that both can block the high voltage pulse and take care of the insulation between the spark plugs. I replaced the MOT with a known coil of 10mH.

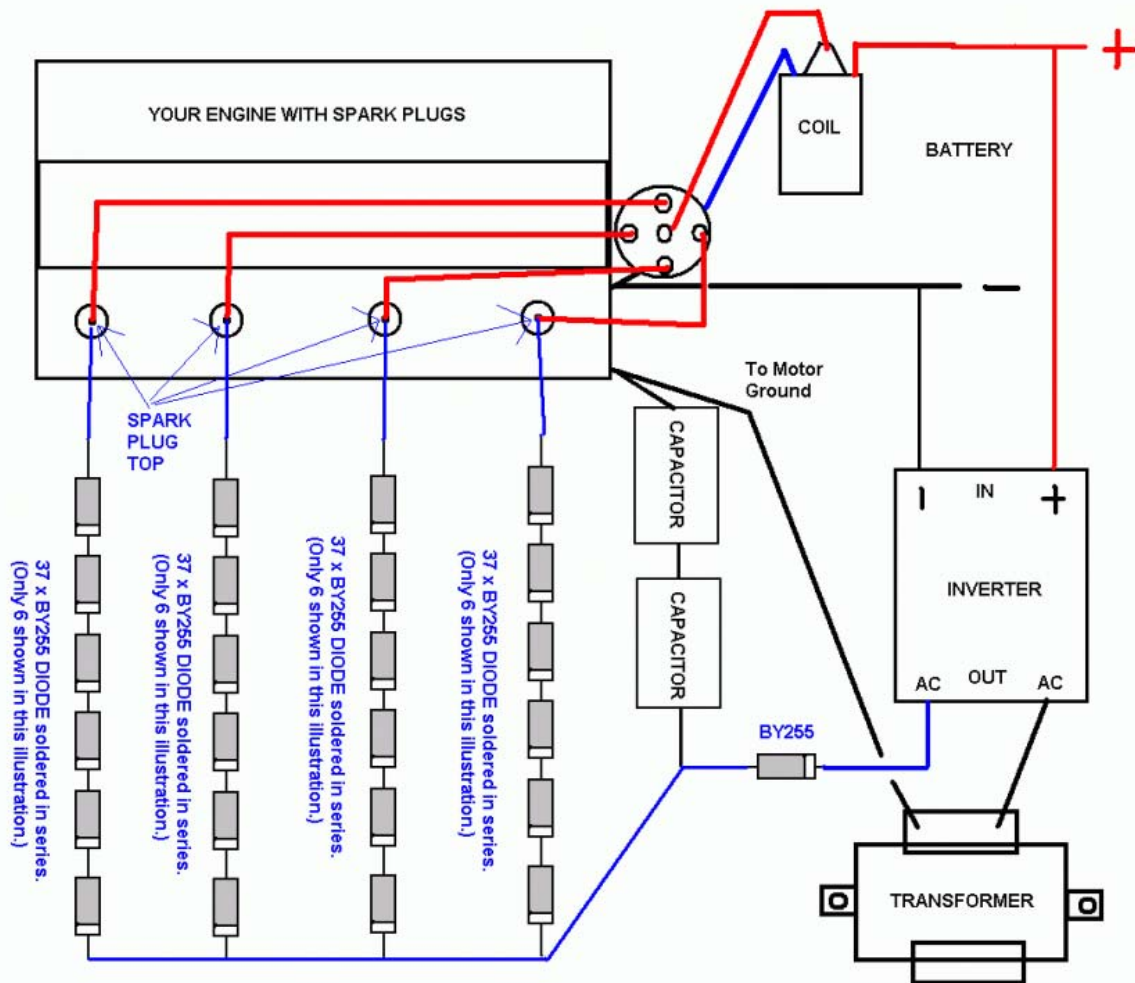
Updated-This is my final proposal for a 230VAC Inverter setup. I have based my circuit on the Nexus drawing. I always like to "beef up" my circuits so that the electronic will last long and not break down. For that reason have I designed the circuit to take up to 48 kilo Volt coil pulses. The BY255 will guarantee a constant current of max 3 ampere from the inverter to each plug. I have also used the LT10A07 ten ampere diode at the Inverter output for the same reason. My two series capacitor will ensure me that the capacitors can handle the first 1000 volt pulse from the ignition coil before the coil flips to high voltage. The Inverter is made of plastic and can be mounted direct on the car chassis. The single transformer coil is a standard coil used in speaker audio filters and is available to most people. This coil also has a know value and can take up to 300 Watt RMS (if ever needed).

### **Updated Circuit**



# CAR IGNITION PLASMA ENHANCER

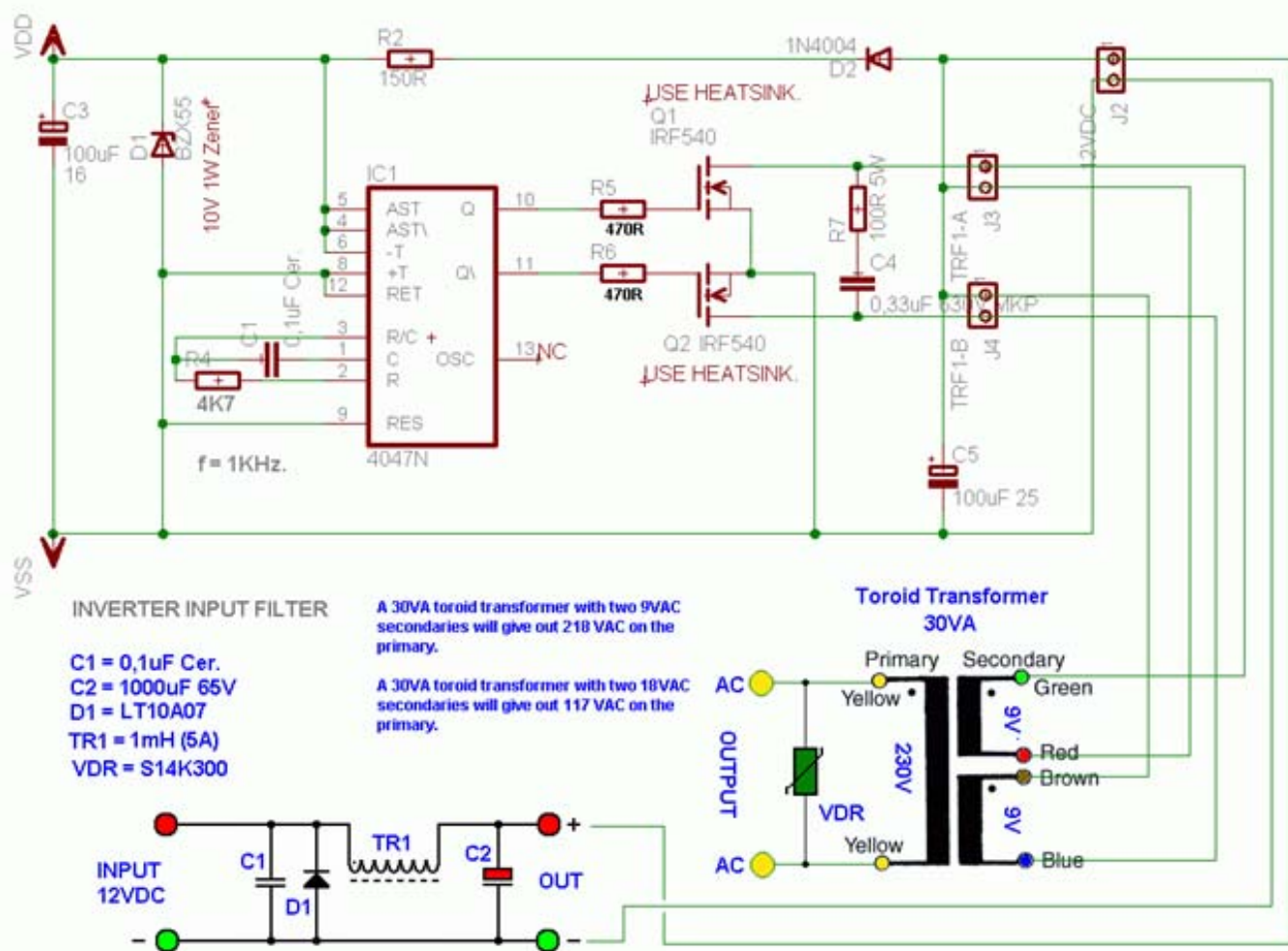




### Ground loops custom inverter

I have tested the inverter and found it to be stable and cool running. It is possible to use different transformers to get different outputs, see circuit drawing comments. The maximum load this inverter can take is 30 VA.

## SMALL POWER INVERTER



### V-8 HEI PLASMA by Mike

[A video to Utube](#) of my V-8 distributor plasma firing all 8 spark plugs. I have no idea how long it takes for them to "process" a video, but as soon as they do, it can be viewed by everyone. Mike's first video - V-8 HEI Plasma. The video is not very good quality, due to a piece of junk camera. The spark looks allot better in person, have to get a better camera. I only have 110V supplying this circuit right now. I intend to build part of Greg's circuit to go along with mine and up the volts to around 300 or so. I found out that the Crydom mosfets also come with a volt rating of 400, for about \$30 more each. -End of Nexus research.

### MOT as an inverter by Gibbs

We should be able to use a MOT as an inverter, as is. The primary can be switched by a Mosfet as the couple of turns winding may serve as an oscillation feedback. it may be that we don't even need an inverter. Just pulse the MOT primary with 12vdc to the

frequency of choice to obtain voltage of choice and you have it all and with isolation. We could also use the AC (pre diodes) of the alternator and would work in perfect sync with higher frequency demands as the engine revs up. That is my exact though but I don't know too much about the bunch of amps. High voltage is more appealing to me as I have found and also user Unclefester that the effect is better with HV.

What we need is the VexUs-HV powered only by a MOT fed by the AC of the alternator. And because the output of the alternator is three phases (out of phase indeed) we cannot make direct connections between phases.

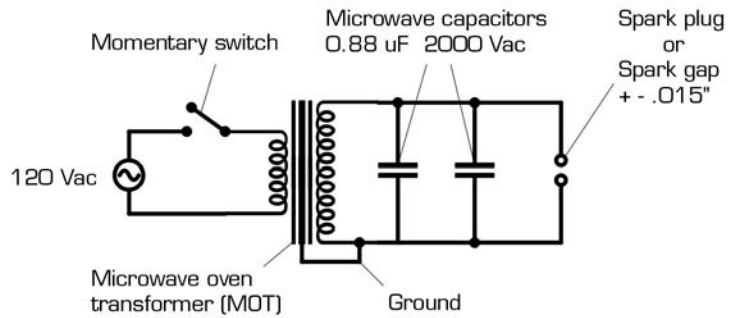
So I would connect each phase on a MOT (three MOTs total) and the secondary of the MOTs onto FWBRs followed by MW capacitors. Then I would connect the three capacitors in series. I think that would put out not far from a thousand volts with respectable amperage. The only mod I would do on the MOTs is to disconnect secondary's from grounds.

I hope that somebody will try it, because if it works nicely we would eliminate some components. Imagine... no more inverter (to fry ). The power source we need is already on board! No need of any kind of regulator, resistor or the like, more RPM = more power output to charge the caps... AUTOREGULATION!

By the way, I've made an interesting observation with a setup. Here is the schematic. The only difference, instead of connecting 120 Volts AC, I charged a 2000 uF capacitor at 170 Volts and discharged it through the primary of the MOT. It exploded distilled water! It demonstrates that the dump capacitor(s) can be charge/discharge instantly.

## Exploding water experiment

Warning!! The high voltage of this circuit can harm you badly, please play safe.

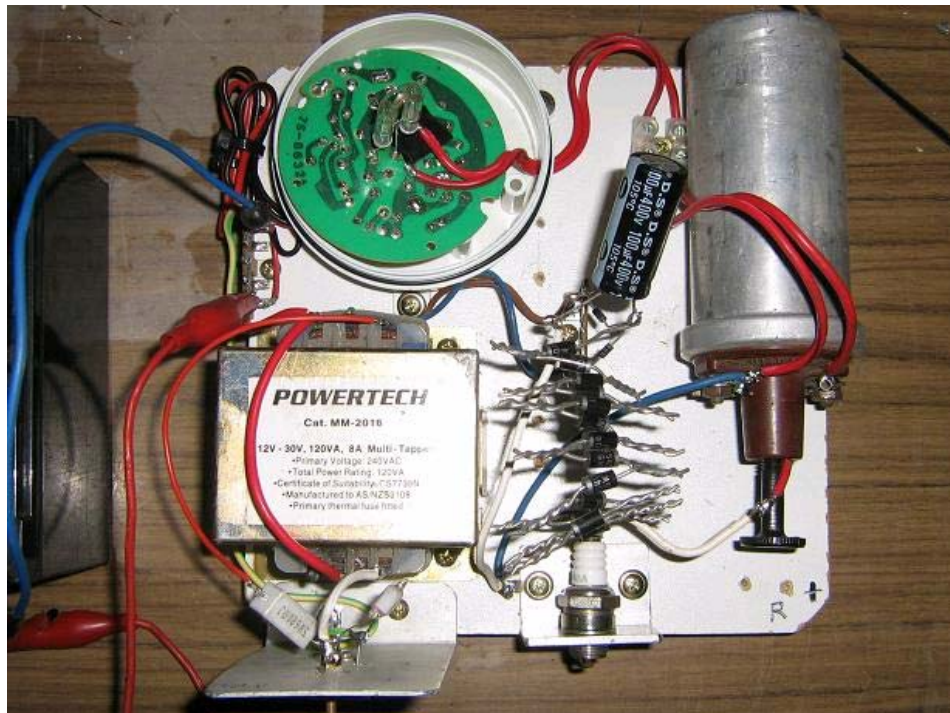


Immerse the spark gap in distilled water, close the switch and voilà!

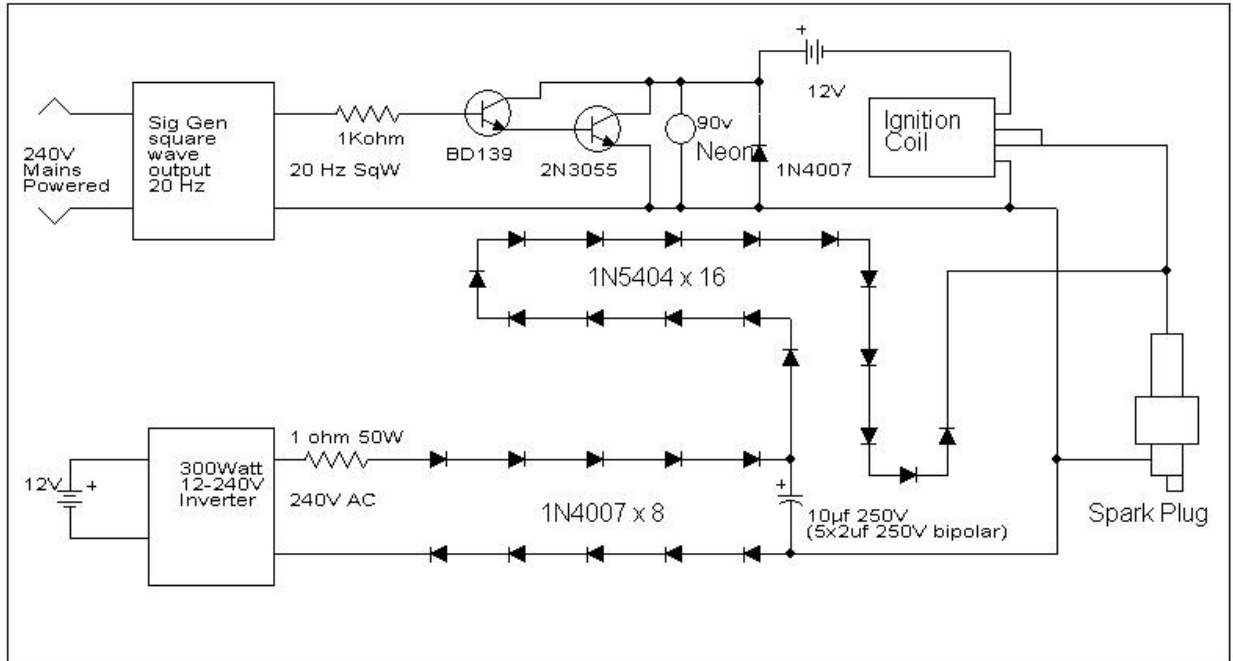
Have a nice shower! :o)

Gibs

## Ossie Calanan's more advanced water spark plug circuit to use with a signal generator







*I said it is an explosion and the result is expanding gases very fast but I said nothing about heat! The explosion is cold! No heat! Forget about your heating plans with this. This is cold kinetic energy. I don't know about water plasma flames but I do remember that you can run your hand through a pure HHO flame without getting burnt. Those were the days of Brown's gas.-Ossie*

Ossie's original instructions: I have fully replicated the effect that Luc describes and shows. It is truly astounding! With no water and a dry spark plug you get normal cap discharges and nothing special. Spray a bit of water and it is like fire crackers going off! The water will continue to explode when fired repetitively until it has all gone from within the spark plug. This can take a minute or two at a 1 second repetition rate. The more fine the water and spray, the more powerful an explosion and it is undoubtedly an extreme fuel based explosion which in this case, the fuel is water. Please see my video where I have tried to capture the explosions with angle shots but my digital camera does not do justice in representing the true power of the explosive ignitions of the water. This is very real stuff indeed folks! - [Video](#)

I am attaching a circuit diagram of my test setup and some pictures to this post. Regarding the circuit, the most important part of the discharge side is the need for a high current high voltage diode. I have simply used 16 x 1N5404 in series. They are 4 amp diodes. My oscillator is a basic radiant oscillator that I released years ago and is a very good and simple radiant energy oscillator. As far as RE being at work here, we all need to do much more experimentation to prove it is required as opposed to convention energy. I do know that my simple circuit uses 1-1.5 amps input at 12 volts

and this energy input can be brought down significantly with more efficient circuit design.

It is VERY SIMPLE to get water to explode with little energy input in the spark plug discharge of an ignition system. All that is needed is a small cap of a few hundred volts and a few uf and a high CURRENT high voltage diode, placed in series across the spark plug. You can use WHATEVER to charge the cap to a few hundred volts DC. An inverter, oscillator, anything.

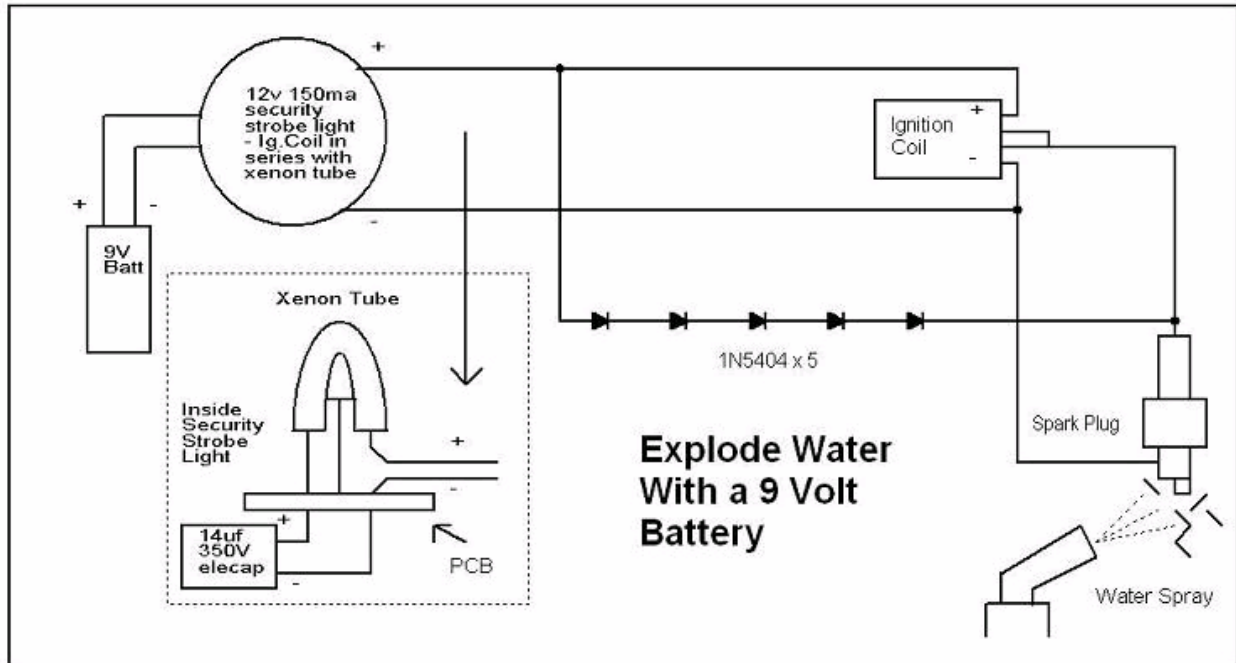
All you need to do is make sure that the series loop of the capacitor, diode and spark plug is very very low resistance. In fact as low as you can get it for your components. The lower the resistance of this loop, the lower the energy input requirement is to make the water explode. It is possible to do this with even a few hundred milliamps.

The key component here is the diode. It MUST be a HV diode to protect the capacitor and power supply from shunting the ignition pulse but it also MUST be a HIGH CURRENT diode to reduce the series loop resistance as much as possible. A microwave diode is a good HV diode but it is NOT a good high current diode. The diode must be able to handle very short surges in the hundreds of amps! This is why I use many 1N5404 diodes in series. These are 400V 4 amp diodes they can handle surges in the hundreds of amps. Putting them in series turns them into a single HV diode capable of handling thousands of volts. If you have many microwave oven diodes then put as many as you got in parallel. But they are expensive so it is much more cost effective to simply use many 1N5404 diodes in series or series parallel combinations.

As I have explained the circuit requirement and operation to explode water in an ignition is very simple. So simple that no one will believe it but it just is. S1r9a9m9's circuit uses heavy 60 amp diodes but is too complicated and not necessary. His use of coils is simply to get the same effect as a capacitor, just in an inverse reactive way.

There is no energy gain in this circuit! The in his circuit the measured difference between 36K 0.8 amp input and 24K 6amp output is just what his meters are showing when the ignition pulse and the inverter pulse is mixed. It is NOT real power. The real power and energy and magic is the water explosion itself. This is the only place in this circuit where something unconventional is occurring. The energy appears the be negative in this explosion.

### **Ossies simplified water explosion experiment**



Because it seems that people, who may or may not lack experience in electronics, are having trouble building and replicating the exploding water effect in previously described and shown devices, I have designed, built and tested what I believe to be a very simple to build device that most people can construct themselves at home that is powered only by a small square 9V battery that is commonly used in smoke alarms. I believe even kids can make this. [Please see my latest video here:](#)



The purpose of this device is not to be able to power your car on water with it but simply

to allow everyone to see for themselves and show others how water can directly explode on demand with little energy input. The device produces the required discharge in the spark plug about every 1 second and uses about 100-150ma from the 9V battery. At this current level the battery won't last too long but it is fine for demonstrations. For longer and continuous runs, just use a small 12V sealed lead acid battery of say 2 A/Hs.

Please see the circuit diagram and some pictures attached below.

All that is required to build this device is the following:

- A 12V, 150ma Security Xenon Strobe Light-Available from electronic and security stores. Color does not matter!
- An old car ignition coil. Available from automobile wreckers.
- A non resistor spark plug. Available from auto shops. Must not have a resistor in it!
- Five 1N5404 diodes or five large rectifying diodes. Part number doesn't really matter. Available from electronic shops.
- A 9 volt battery. The same as used in smoke alarms. Available from anywhere.
- Some hook up wire.
- Basic tools including a soldering iron and some solder.
- Handheld water sprayer filled with water.

That's all folks!! Please build this and show it to your friends, family, your teachers, professors, work mates anyone and everyone who can't believe that water can explode. Help your kids build this as their school science fair project. Just build it for fun!



On another note, my very good friend Ben has been doing some great research on this process as there is surprisingly quite a bit in the internet about it. He has found some references claiming that the energy released, when the water apparently explodes, is one thousand times the input energy required to cause the explosion. He has found some great info out about what may actually be happening but I will leave it to him to share if he gets time. Enjoy!

if you are going to use inverters as your power supply please avoid using new and modern inverters that are all HF semiconductor based and are effectively the reverse of a switch mode power supply and does not have a large standard transformer in it. These modern inverters, because they are all semiconductor based, will be very sensitive to any reverse HV spikes and you will blow the semiconductors in them quite easily. The best inverters to use are the older type that are very heavy because they have a large transformer in them. They work in reverse to a normal step down mains transformer and use transistors to oscillate at 50-60Hz the 12V side of the transformer. The 110-240V side is just the transformer's output winding. So these inverters are much more tolerant to HV spikes as the transistor's are protected by the transformers internal winding insulation, although even this does have a limit.

I do NOT recommend people use inverters unless they are either qualified or experienced in working with mains power voltages as the output of the inverter is lethal and the same as your house mains power point. Regards, Ossie.





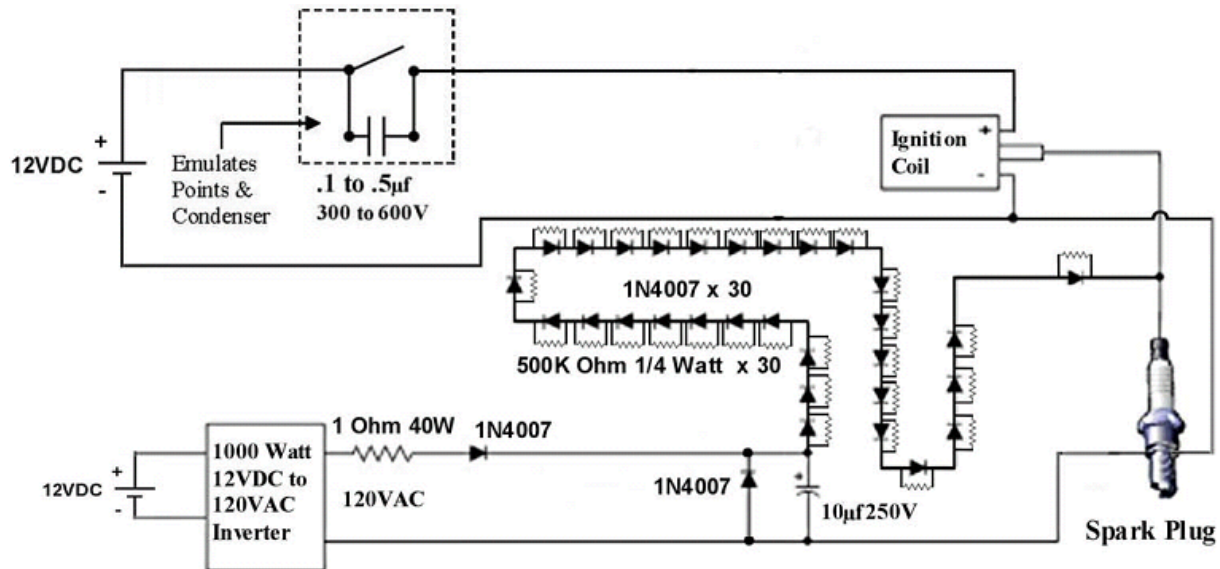
Using inverters -Please see the last circuit and results I posted as follows:

<http://www.overunity.com/index.php/topic,5024.msg109796.html#msg109796>

I have run this circuit up to 100Hz with no problems. At 70Hz it only uses 5 amps at 12V on the inverter's input. The inverter was delivering only 60 watts where it is designed to deliver up to 300 watts continuously. I know you have been blowing up inverters and are trying to do this but please try and read and understand all of the previous posts regarding the circuits. Get someone to help you if you need to. This may help you to have more success.

One thing I would like to point out with the discharge and the reaction with water present is that, as Luc has told us of previously; even moisture in the air can increase the explosiveness of the discharge. Spraying water on your spark gap certainly increases the explosiveness a great deal but if you don't, humidity of the air and any natural condensate of moisture on your electrodes or spark plug will increase the power of the discharge. To alter this, simply use a hair dryer or heat gun and completely dry your electrodes and/or spark plug. Then you will find that the explosiveness of the discharge will be greatly reduced to the point of being non existent and it will appear as a normal high energy spark discharge, relative to the value of your capacitor of course. This is also a good way to look at both extremes of having water present in the discharge and no water, or very little water present and noting the difference in the discharge. I think you will find it quite significant and unexpected Regards,Ossie.

**Geo Watercar Circuit Ver03-01**



We ran our first test for the plasma arc today! I know the description following may be extremely basic and BORING for many in here, but as promised, I said I would divulge everything we did Step-By-Step, and explain it in the simplest of laymans terms, so that anyone that knows which end of a screw driver to use, can also do this!

Step 1: Verify non-resistor spark plug. Attaching a multimeter set on ohms we touched the top of the plug to the little anode (not the "L") and got zero ohms.

Step 2: Verified our ignition coil was good. Again using the multimeter on the ohm setting, we set it to the 1 ohm position. Taking one probe and attaching it to the "+" terminal and the other probe on the "-" terminal of the ignition coil, the meter read 1 ohm. That verifies the primary coil of the ignition coil was OK.

Setting the multimeter to the 1K ohm setting we took one of the probes (it doesn't matter which one) and placing it into the center of the ignition coil (where the coil wire plugs into and goes to the center post of the distributor cap on a car), and the other probe touching either the "+" OR the "-" terminal (doesn't matter which one) on the ignition coil. The meter read 11K ohms. This verified the secondary coil in the ignition coil is also OK.

Step 3: Testing the diodes. Again, using the ohm setting on the multimeter we set it to the 1K setting. We touched the '+' probe on side of the diode that has the little bar printed on it, and the '-' probe on the other side. It showed no resistance which is what we expected. We then reversed the probes and the meter did not move at all, again, what was expected. If there was any movement in that position, the diode has leakage and therefore bad. We repeated this with every diode to verify they were good.

Step 4: Connected all the components according to our schematic

Step 5: Test the "Points and Condenser" emulator Leaving the diode chain, capacitor/diode in parallel, and leading diode from the inverter disconnected from the spark plug, we flipped the switch back and forth and got a good spark at the spark plug. This verified our "points and condenser" emulator was working properly as well as verifying the ignition coil was putting out HV.

Step 6: Testing whether the ignition coil is "+" ve or "-" ve. We connected the diode string, the diode/capacitor parallel arrangement, and leading rectifying diode to the spark plug, but didn't plug in the AC. We got NOTHING from the spark plug at all.

We quickly deduced we had an ignition coil that had a "-" ve discharge instead of "+" ve. To verify this, we disconnected the entire diode string from the other components, reversed it's direction, and placed the string across the spark plug. We got spark from the coil. This verified we had a "-" ve coil.

Step 7: Reverse the circuit for a "-" ve coil. We reversed the capacitor/diode parallel combination, as well the leading rectifier diode coming off of the inverter. We disconnected the diode string from the spark plug base and attached it to the capacitor/diode parallel arrangement and the now reversed leading diode. Again, before plugging in the AC, we tested the spark from the HV. We got spark every time we opened and closed the switch. This verified the reversed circuit design for a "-" ve coil.

Step 8: Plug in the AC

Step 9: Fire up the circuit DRY (no water) We flipped the switch back and forth. We got good, not great PLASMA arcs although they were intermittent. We observed the HV spark every time we flipped the switch, but the plasma arcs were sporadic.

Step 10: Test the circuit with water. We misted the spark plug with water and started flipping the switch back and forth. The plasma arcs generated were substantially bigger and brighter arcs and louder bangs than when fired dry, however the plasma arcs were still intermittent and didn't yield an arc every time the switch was opened and closed, although we did get the HV spark every time.

A few comments as to why the circuit is designed as is. The 30 1N4007 diodes are connected in series to prevent the HV from reversing back toward the inverter. The 500K ohm resistors in parallel with each diode essentially equalizes the diodes.

Sometimes a diode may not have all the proper characteristics as rated. If one diode is actually weaker and internally not functioning up to specifications, it will blow and cause a cascading chain of blown diodes. The 500K ohm resistors in parallel with the diodes equalizes the diodes.

The rectified AC LV side of the circuit will never see the 500K in forward direction because electricity will take the path of least resistance and flow through the diode. In the reverse direction it will see the reverse opposition of the diode, but if the diode is deficient, it will also see the 500K ohm resistor and thus protect the inverter.

The diode in parallel with capacitor is another safety precaution for the inverter. The lead diode from the inverter simply rectifies the AC to DC. The 1 Ohm 40 watt resistor is another protective component for the inverter. We are very happy about the first test here, but are pretty disappointed in the sporadic plasma arcs. Does anyone have ideas as to how we can achieve plasma arcs every time we flip the switch back and forth as we have observed with the HV sparks? Suggestions welcomed!

The 1N5404 diodes are only 400 volts 3 amps vs. 1N4007 diodes at 1000 volts 1 amp. A standard ignition coil HV output typically ranges from 30Kv to 45Kv. That is why we have thirty 1N4007 diodes. 1N5404 diodes x 16 is only 6,400 volts of protection. If the HV coil output somehow fed back to the LV side of the circuit, it would never handle the 30Kv - 45Kv hitting it. Although the 1N5404 diodes have a 1200 watt rating (400 volts x 3 amps) vs. the 1N4007 at 1000 watts (1000 volts x 1 amp), it is not the amperage (substantially less than 1 amp) coming from the HV coil we need to worry about "blasting" the inverter... it's the volts!

Although an alternator with or without it's diodes delivers plenty of volts and amps, in order for it to function, it has to be turning, which means the engine has to be running. We need to have the plasma arc during startup of the car, as well as while it's running.  
Regards,Geo

### **Radiant Water Spark Plug Schematic By Aaron**

Enjoy this video. You will need:

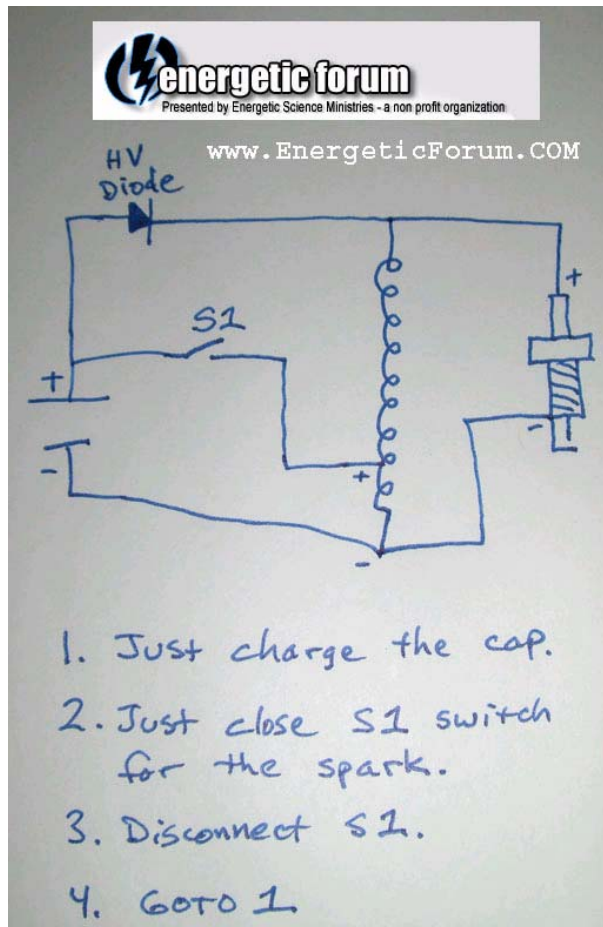
Any car coil,

Any little photoflash capacitor

HV diode or a lot of smaller low volt ones in series.

No sparkplug without resistor, 2 nails gave me the effect so I bought a resistor less one today to see a difference.

My 9 diodes or however many there are blow out after a few sparks, point is, you know the concept.



Aaron circuit anomalies are described further in the faculty section. Update **Aaron has since added a new explanation to the process related to the EVGRAY tube, please read about this circuit operation in the faculty section below.**

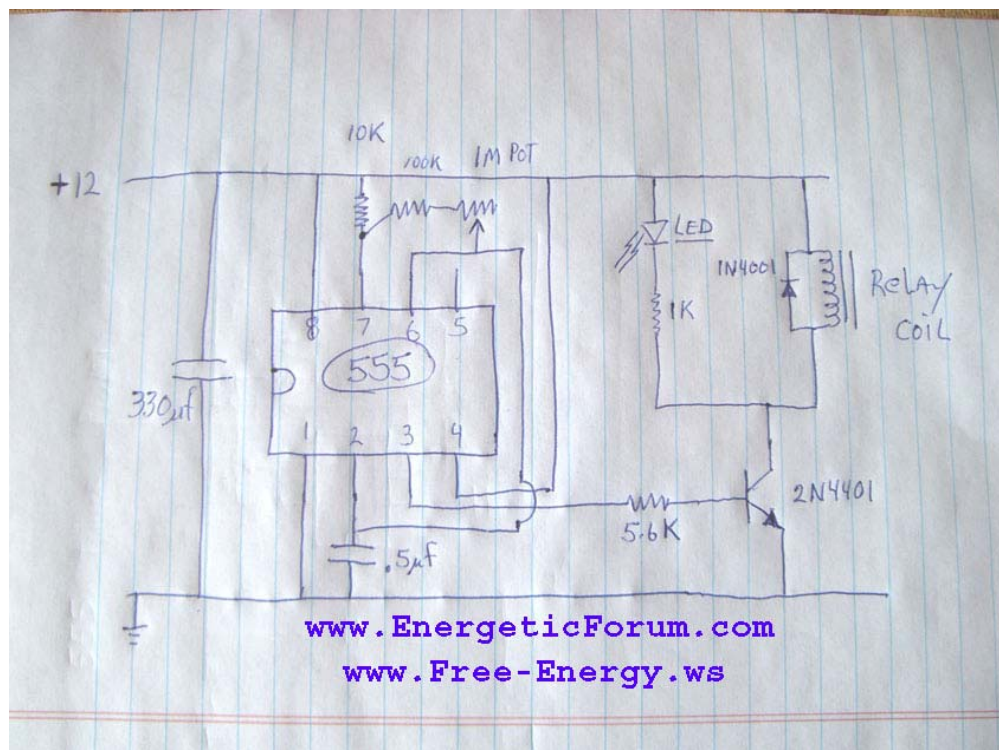
Peter Lindermann's replication

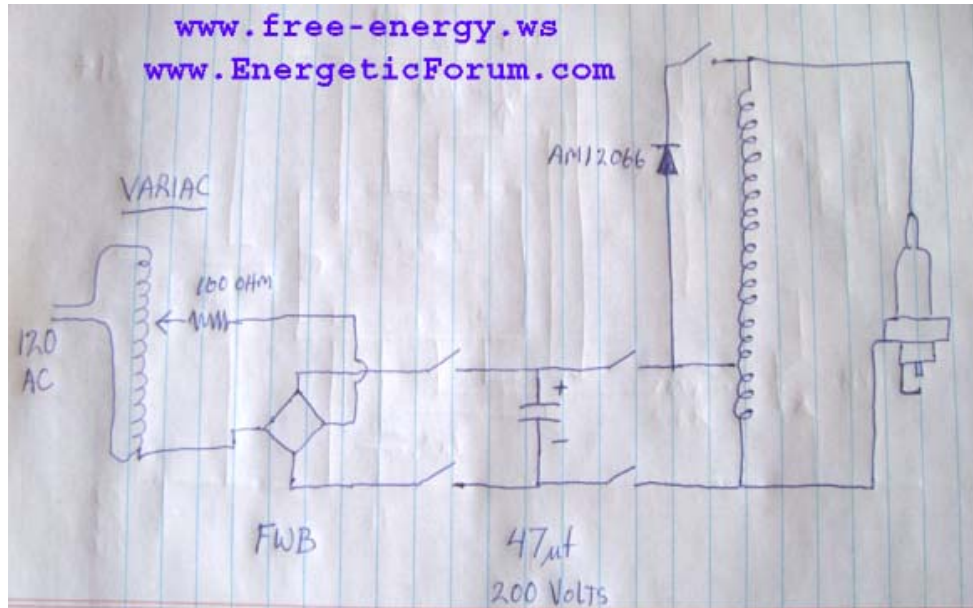




Photos and schematics from the You tube video of Peter Lindemann's replication of the exact water sparkplug schematic Aaron is using. Great for anyone who wants to simply study the effect and learn the basic circuit.

<http://www.esmhome.org/library/water...emannspark.zip>

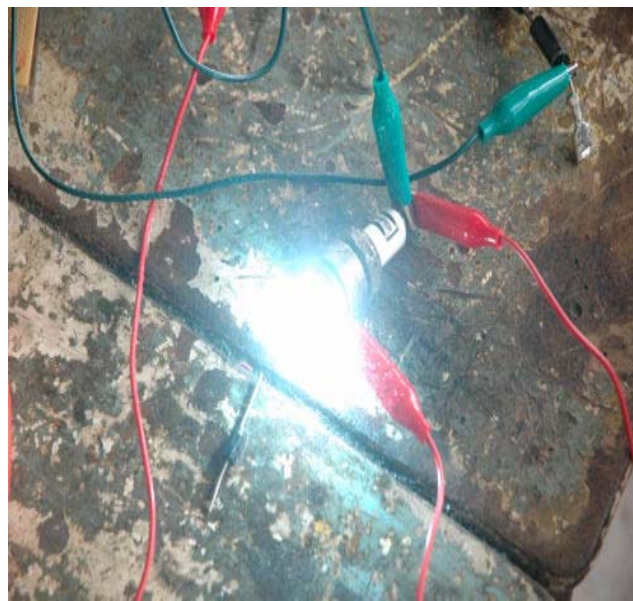


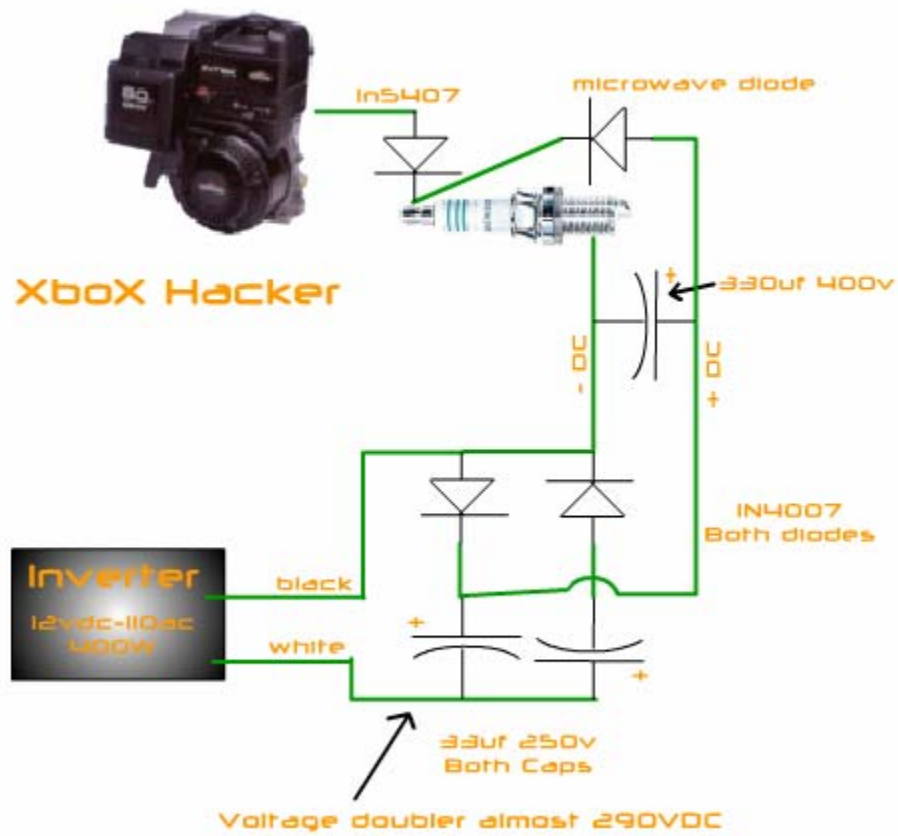


The AM12066 is a "replacement part" for the power supply inside a Microwave Oven. It is NOT a diode that switches at "microwave" frequencies. A simple Google Search on the term "*microwave oven replacement parts diodes*" leads to this: [Microwave Diode Replacement Kit - M3D71](#) This is roughly equivalent to the diode I used. More technical discussion on his replication is covered in the faculty section.

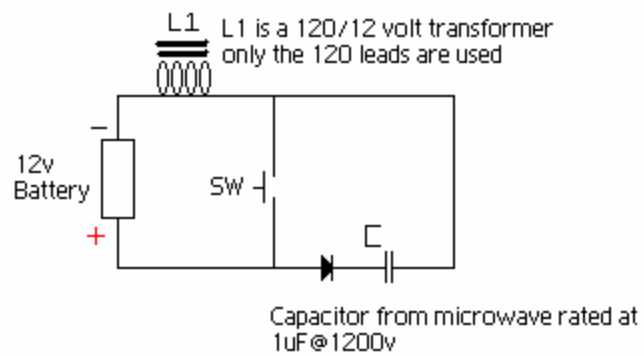
[YouTube - Peter Lindemann's Water Spark Plug Replication](#)

### Xbox Hacker Circuit



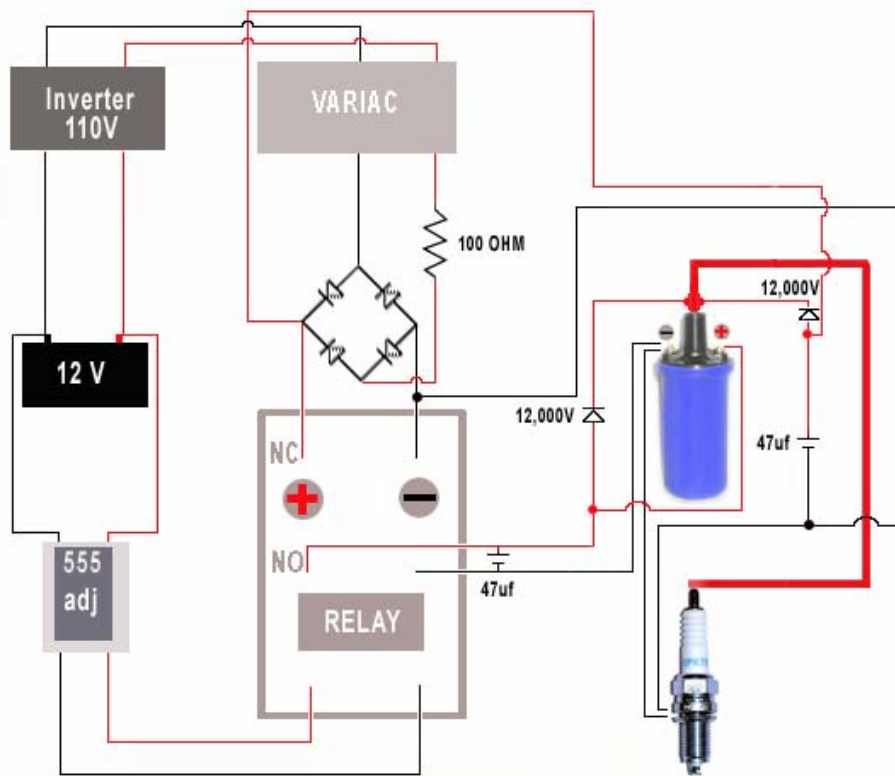


Allcanadian Circuit



I use this simple circuit to charge a 1uF/1200v capacitor to 250v with a single quick press of switch(SW).It doesn't get any cheaper or more simple than that.You can use any diode rated above the voltage you want, the transformer secondaries act as an inductor and I have charged my cap to over 1000v by using a HV microwave transformer as an inductor. Just think 12 volts directly to almost any voltage you desire with a few switch closures and SW can be replaced with a relay, there is no more efficient way to charge a capacitor I know of. What you do with the charged capacitor is up to you.

### Spark enhanced circuit



### Removing the Resistor in the Spark plugs

The resistor controls how fast the cap is being charged, the more resistance that you have the slower the cap charges. When dealing with multiple spark plugs and one cap, the resistor will basically control to what % level you will charge the cap to. Too much resistance and the cap will not fully charge between spark plug firings. Depending on



the size of your resistor, you probably won't see a decrease in spark effect until you reach higher RPM's and the cap charge percentage decreases.

What you have to do is look at the plug code. Anything with an 'R' in it has a resistor. If it doesn't have an 'R' it's non resistor. This is how to remove the top on a Champion 8339 plug and remove the resistor inside and replace with a piece of wire to use in plasma/water experiments.

### [Plasma Plug Setup](#)

## **Faculty Information**

*TO EVERYONE: The action between water vapor and a plasma arc IS NOT instantaneous disassociation of water into its components, hydrolysis of any kind and really NOT the topic of this research! It is very similar to Flash Steam, if not flash steam itself! It is very similar to Lightening and Thunder. Lightening and Thunder is the discharge of high energy which pushes the air molecules between the water vapor molecules in the atmosphere at supersonic speeds. Thunder is essentially a sonic boom which we not only hear, but also FEEL its concussion. This is not a chemical - combustion reaction... it is a physical - concussion reaction with enough concussive force to push a piston down.*

*Now, can we please get back to developing the best circuit which Luc started and work together to focus on this ALONE. There are a million other forums out there for awesome alternative energy systems, but extraneous to this particular thread. As S1R's videos already showed, he IS running the Briggs & Stratton engine on water ALONE. We just don't know what components are in the silver painted "I Can't Believe It's Not Butter" container, which is what Luc felt he had a handle on, and started this thread.*

*PLEASE! Let's work together and help each other moving forward with what Luc started and not deviate from the task at hand... to recreate the circuit in the "mystery container." The rest of the project is already known. -Geo*

### **Addressing plug wear using the Suckewer patents**

Regarding issues of not wanting to burn plugs. The answer was really addressed in some of the Suckewer patents. We have included a bunch of relevant patents into a zip file. "Also make note of how the windings on the ignition coil is less." That is also in the Suckewer patent(s). Many of these plasma ignition patents have modified ignition coils, something I'm not sure if anyone has delved into.





sparking... or even High Chromium Nickel Alloys will also work. Using these alloys is critical due to the plasma created.. Copper melts at 1200 deg C.

Robin has stated that they were made of the same steel the rest of the plug is made of. Recently he has switched to a new alloy for durability. He told me the plugs are now made of an Alloy called Beryllium Copper. Info [Beryllium copper - Wikipedia, the free encyclopedia](#).

They may look like Copper but not really just that. He has been testing and developing these for some time now. However it would be interesting to see how a high Nickel content Stainless version of this plug would perform as some have reported nickel could have a catalysis effect on water in the combustion chamber?

Platinum-Rhodium Thermocouples are commercially available in various wire sizes and these have good wear resistance at high temperatures as well and are available in wire form and can be flattened for this application. There is another rare Thermocouple Alloy made from Tungsten - Rhenium Alloy which can withstand temperatures of over 2500 deg C and can be used here but it's pretty difficult to find in retail.

The tips exposed to sparking usually fall under "Spark Plug Alloys" but there is a catch here as the previously developed alloys were for sparking only and not for use under Plasma conditions.

When you choose an Fe-Cr-Al alloy or Ni-Cr-Al Alloys check for the rare-earths used in these Alloys they should be of Yttrium, Zirconium, Hafnium and Cerium. The Rare Earths actually form a protective oxide layer on the surface of the exposed material and this thin film stabilizes at high temperatures and protects the rest of the material from the volatiles

In order to achieve longer service times and reduce fuel consumption in the automotive industry, spark erosion resistant but expensive platinum alloys are used for spark plug electrodes. The necessity of reducing costs and maintaining high quality materials lead to the investigation of cheaper iridium alloys for this application. Iridium has a high melting temperature but the volatile oxide  $\text{IrO}_3$  is stable above  $1000^\circ\text{C}$ , which accelerates electrode erosion. Therefore iridium can replace platinum only when it is protected against oxidation, for example through alloying, so that the alloying element oxidizes and forms a protective oxide layer at the electrode surface.

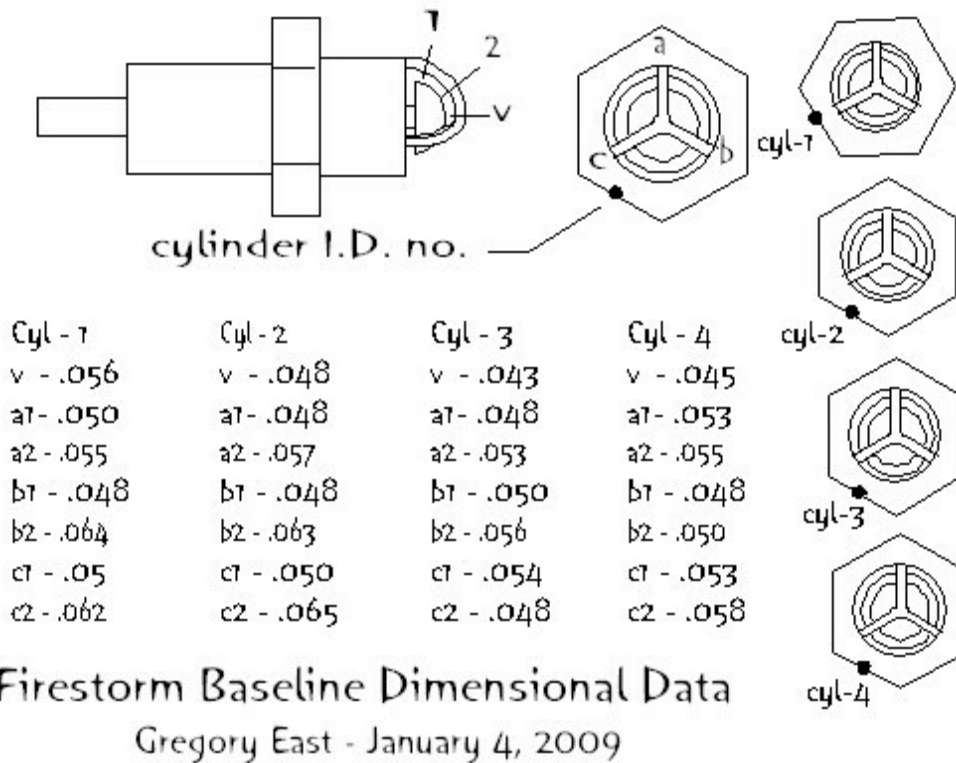
Fe-Cr-Al-Y (25% Cr, 5% Al and Y stands for Yttrium) alloy is commercially available as an Electric Resistance Alloy in Wire and Strip forms which can be modified and used for this application.

**Gregs firestorm plug test data**

Here is a short video showing a Firestorm spark plug replication running on the VexUs circuit.

[YouTube - firestorm1a](#)

I have just completed measuring the plugs for wear documentation purposes. I have created a baseline data table showing measurements taken at 7 different points on each plug. The plugs have been I.D.'d and assigned to specific engine cylinders. **Thank you Robin David for these expert replications!** Here is a pic of the plugs and the chart:



### The Vexus Circuit. Pros and Cons

I would just like to say that the following post is based on my understanding of the effect and the application of the Vexus variant of the Water Sparkplug circuit. Advantages and disadvantages as I see them. And is no way an attempt to impugn anybody's efforts applying this technology. In fact, I have spent many hours catching up on posts and I am amazed at the progress made and technical solutions to problems identified along the way.

Vexus and the original circuit both disruptively discharge capacitors across an arc created by a HT coil. The only difference is Vexus uses a storage capacitor specific to this purpose where the original circuit used the capacitor that also provided the energy

source for the primary winding of the ignition coil.

There was a post aimed at me about spark duration. (I have been inactive for several months) The spark duration of an inductive ignition coil is around 120uS to 140uS (micro seconds). This is true whether you inductively charge the coil as designed with points and condenser or in my circuit dumping 300v across the primary from a 4uf capacitor (without the HV diode). I'm not sure, but I think modern CDI is around 60uS because the coils are constructed differently.

Anyway, the addition of the HV diode in my circuit reduced the spark duration from 140uS to 10uS. Not because of the plasma in the discharge, but because the energy stored in the capacitor discharging across the primary winding went short circuit via the HV diode the instant the arc formed. Thus, creating the plasma effect and instantly robbing the primary winding of all power and terminating the arc.

IMHO this was the advantage of the original circuit. The abrupt end to the arc allowing me to produce the effect with very little stored power. The problem with increasing the stored energy or capacitance was that only so much of it shorted across the arc. If the duration of the arc ends before the energy in the capacitor is spent, you get a curve at the bottom of the vertical discharge trace at around 50v. This is the remaining, stored energy bleeding off via the resistance of the primary winding. I considered this wasted energy. If you have energy on your capacitor after the disruptive discharge, it is wasted (this may not apply to the Vexus circuit).

It is the stored energy of the capacitor shorted across the arc that produces the effect. The more energy you can dump across that arc the more violent the effect. For bench purposes the lower the capacitance and the higher the voltage, the higher the frequency and the shorter the spark time. It all leads to some interesting effects. But this is not what is required for the ICE.

The advantages of the Vexus circuit are clear. It offers an almost bolt on or piggy back approach to implementing the circuit in a vehicle. This can only be a good thing but there are drawbacks. The spark duration will be that of the normal ignition system. It may SEEM to require greater capacitance to produce the effect but the more energy you dump across the arc the greater the wear on the plugs and distributor (unless you dump directly across the plugs). As the spark duration could be up to 14 times greater than the original circuit, increasing the capacitance even further could be possible at the risk of very rapid plug wear.

There is a conundrum here. A greater effect can be produced with less power using the original single, low value capacitor circuit. Less energy will be required from the charge pump, higher frequencies and less wear at the plugs. Difficult to implement or piggy

back onto a standard ignition system.

The Vexus circuit is easier to implement but larger capacitance and longer spark duration create more wear on the plugs and require beefy charge pumps. There will have to be a trade off with the Vexus circuit between a powerful effect and plug wear.

Capacitance need only be great enough to prove beneficial to fuel consumption and running. Too much capacitance and circuit supply, reliability and plug wear will reduce the gains of the system.

From Greg- Spot on with all counts. I still have the original solid state version of the original coil-driving circuit using charge and discharge power mosfets. When the inverter issues crept in I almost abandoned the VexUs altogether. The only reason I didn't is because to make the solid state version of the original circuit work better required very high voltage mosfets ... way, way expensive.

The piggyback concepts seemed so intriguing that solving the inverter problem seemed natural. If you have seen the traces of the Vexus discharge it becomes clear that the CDI cap is completely discharging ... however long that takes to happen. I think it is longer than a conventional spark. Once the conductive path is formed by the standard spark, the cap just discharges until it is empty. I will try to acquire more quantitative values for the discharge time, but I'm pretty sure the CDI cap's discharge is not regulated by the duration of the coil's discharge

### **Revizal's research**

I've completed a test using 25 watt, 60 watt, and 100 watt bulb as resistor to see the effect on plasma booster. The higher the bulb's power the louder the effect and the bigger plasma result. Here is the video link:

[YouTube - Plasma Bulb Comparison Effect on Motorcycle](#)

Notes from Greg - Eventually, too high a bulb power it will just arc and melt the plug. Another thing I have captured on my scope is the resonance resulting from using NO storage cap and running at a frequency synchronous to the inverter frequency. Here you have random places where the ignition spark happens at or near the crossing of the inverter AC. Here you get a plasma misfire (no plasma). The only way around this is to operate the inverter (like I can operate my power oscillator) at a multiple of an RC time constant ... preferable about 3 - 5 x sparking frequency ... 200 - 500 CPS (4-cyl engine 6000 RPM). This has worked well with both versions of VexUs ... storage cap and NO storage cap.

### **Air fuel Ratio**

The mixtures in the average auto ICE are "rich", easy to light mixtures. So spark won't have a massive effect. However it is in the "lean" (16.5:1+), hard to ignite mixtures where I expect this ignition system to shine.

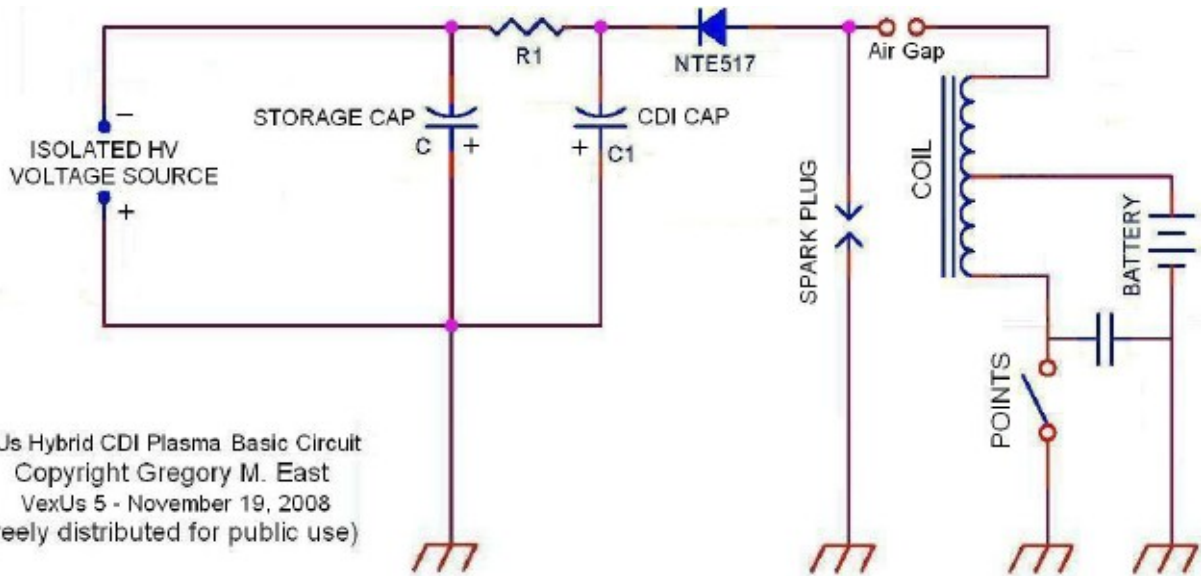
Auto makers "tune for emissions" first then economy second. They have to by law. The latest emission regulations restricts the leanest A/F ratio to 14.7 as Nox dramatically rises after 14.7 to about 16:1. But after about 20:1 Nox dramatically reduces. But current ignition systems will usually experience "lean misfire" after about 17:1. So we are stuck with 14.7. So I think that the best test for this ignition will be seeing how lean a mixture it will fire. If it can fire 24:1 lean mixtures without misfire then we are going somewhere. I have the equipment to test the lean misfire limit but I am unsure as to what is the better circuit to use at this point.

### Gregs older experiments

#### VexUs-5

A member from Overunity.com pointed out the need for a diode at the HV output of the coil to prevent coil heating and partial coil voltage negation caused by the reverse voltage of the VexUs circuit. This make it much like the Tero circuit. This was a very good observation on Zis's part. This IS required for HV on the bench where you have the coil hooked up directly - full time. However, in a real application, the coil is never, ever connected to the circuit because of the air gap provided by the distributor. By placing an air gap at the HV output of the coil, this can be simulated on the bench. The spark is greatly enhanced. For coil packs you'll need an actual air gap or diode. I prefer the air gap because I don't want ANY resistance in this path. You need to shield the zone against RF leakage though.





I finished mounting the hardware and here is a pic of the mounting panel I use to hold my stuff. On the left is the 24 Watt support oscillator. Far right is the voltage multiplier that supplies 400 VDC to 350 VDC from 0-RPM to 3,500-RPM. The numbers are slightly different than from the bench ... to be expected though. Between them is the power supply cap (may not need it). Above the oscillator is the 500 Ohm anodized aluminum power resistor (current limiter / charge resistor). To the right of that there's a terminal strip and at the top is a 3 uF HV cap. No more storage cap because the multiplier serves that purpose.

I plopped it in, plugged it in and went for a 45 mile trip on the back roads. Wound the engine out, lugged it and ran it normal ... the whole nine yards. I hooked up the scope and got the typical discharge curve I've already posted. Getting ready for a water vapor test now ..... FINALLY !!!



### Test Report

I completed my first test run. I drove 300 miles. 65% of that was freeway miles at 55 MPH. The rest was around town, stop and go, my guess is average about 20 MPH - 40 MPH. I want to say that the factory hype for this vehicle with the stock 1200 CC engine was 31.5 MPG (U.S.). I had the engine rebuilt - new jugs and pistons - which made it 1300 CC - a bigger engine with much more power - same carb as for the 1200 CC. During the test I ran the Vexus Circuit with its own Oscillator and Voltage Multiplier (doubler). I also made a water drip system that forced steam to be aspirated into the carburetor at a set rate (Bug-on-I-V). I topped the tank off with 8.44 Gallons of regular gasoline. Do the math. Not only did we beat the factory estimate by 13% for the stock 1200 CC engine, we beat it with an even bigger, more powerful 1300 CC engine. We also beat the best mileage I ever got on this engine by 43 %!

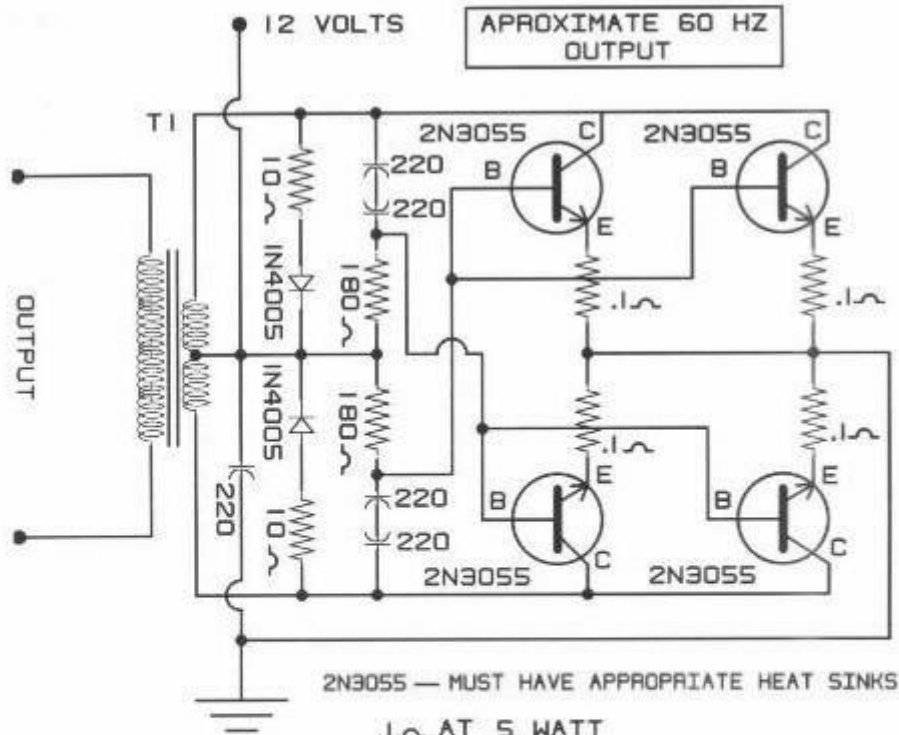
Spark Plugs: I did NOT use new spark plugs for this test. The plugs in it are the ones I've been using all along for the bench tests and Vexus Circuit development (in vehicle). I have no real estimate of the 'abuse' miles on these plugs.

I have included a photo of the #1 spark plug alongside a new plug. There HAS been wear, so this needs attention ... maybe a different electrode configuration. The left hand plug is from the bug and gauges at 0.041" and the new plug gauges at 0.029". This test has been conclusive on several fronts ... at least for me. PLASMA RULES !!!



I [Greg] have been running my VexUs circuit (below) on a simple two transistor oscillator / inverter for some weeks now ... I posted a vid to the effect and a vid also of just the oscillator. It's the one I posted a couple of weeks ago on overunity.com and I think here too. I'm using only two of the four shown in mine. This old design is not efficient until it is drawing power, but it is bullet proof. You have to select caps to get the correct LR/LC/RC relationships for the proper frequency it can be a pain, but once set it's "mmmmmm" good.

# HIGH POWER INVERTER



2N3055 — MUST HAVE APPROPRIATE HEAT SINKS

.1 AT 5 WATT

10 AT 5 WATT

180 AT 2 WATT

220 MFD 25 VOLT CHANGE VALUE TO CHANGE FREQUENCY

T1 = 110 VOLT TO 18 VOLT = OUTPUT APPROXIMATE 120 TO 130 VOLTS

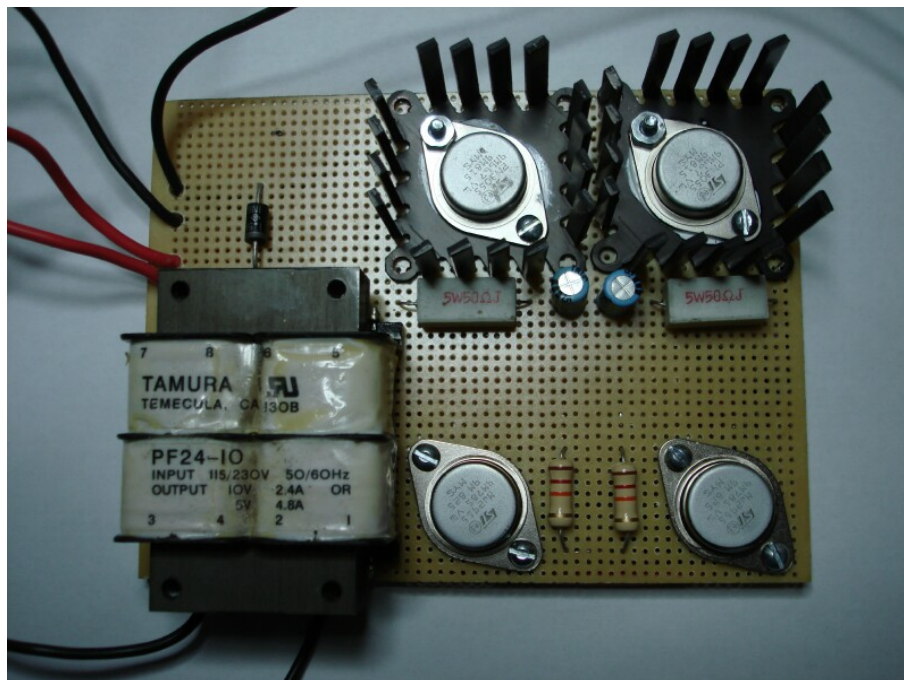
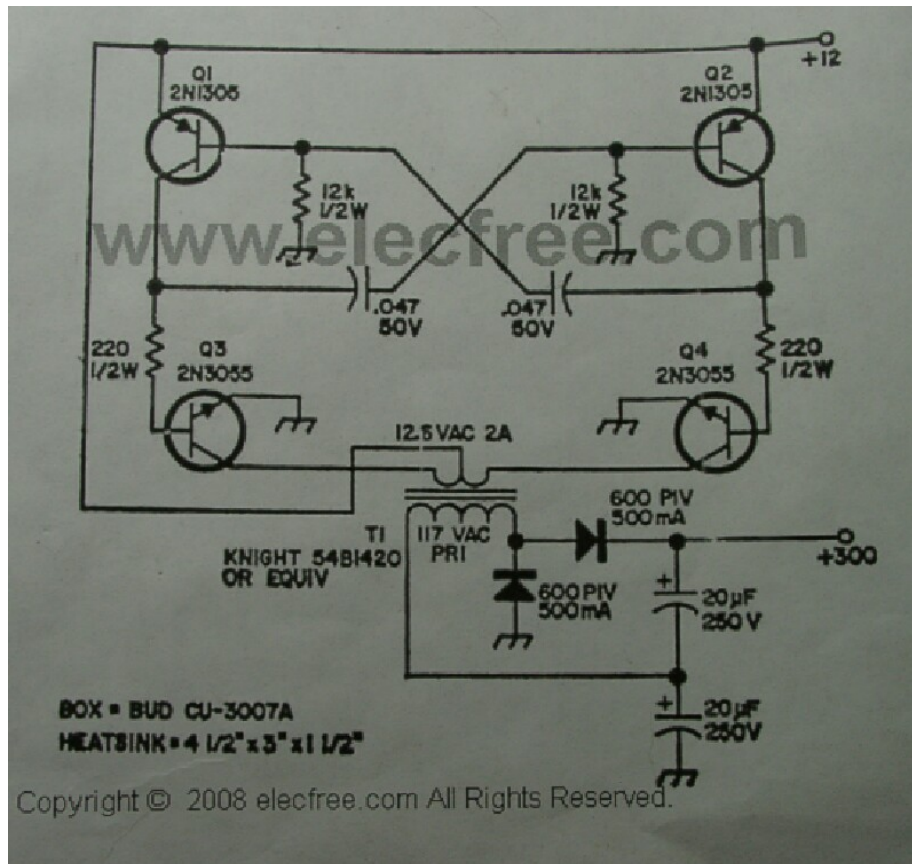
T1 = 110 VOLT TO 24 VOLT = OUTPUT APPROXIMATE 80 TO 90 VOLTS

T1 WITH A 4 AMP RATING WILL GIVE AN APPROXIMATE OUTPUT OF 50 WATTS

T1 WITH A 8 AMP RATING WILL GIVE AN APPROXIMATE OUTPUT OF 100 WATTS

T1 WITH A 12 AMP RATING WILL GIVE AN APPROXIMATE OUTPUT OF 150 WATTS

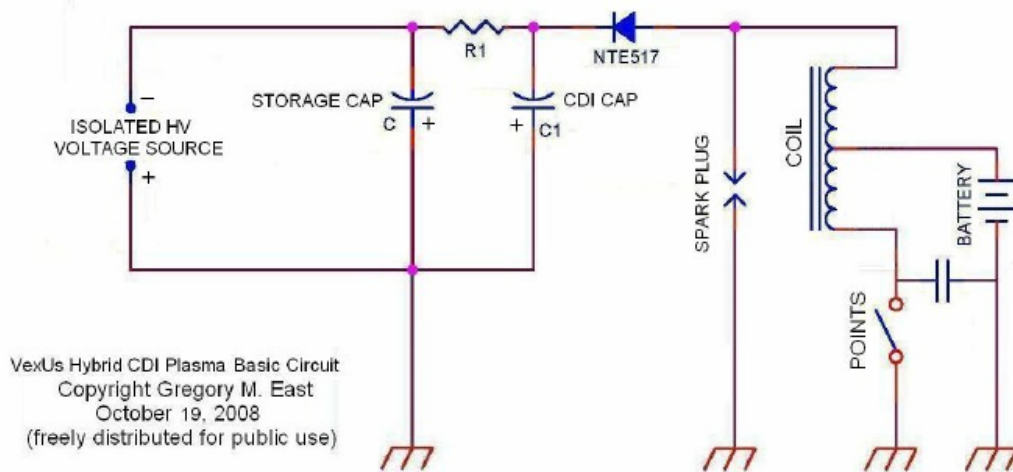
I use solid plug wires, but initially I used the stock plug wires and ran separate plasma wires to the plug tops. It works either way. I am only using 3uF CDI cap but it is a very nice plasma spark.



[YouTube - VexUs circuit not blowing stuff up](#)

Greg's older experiments are included in the faculty section



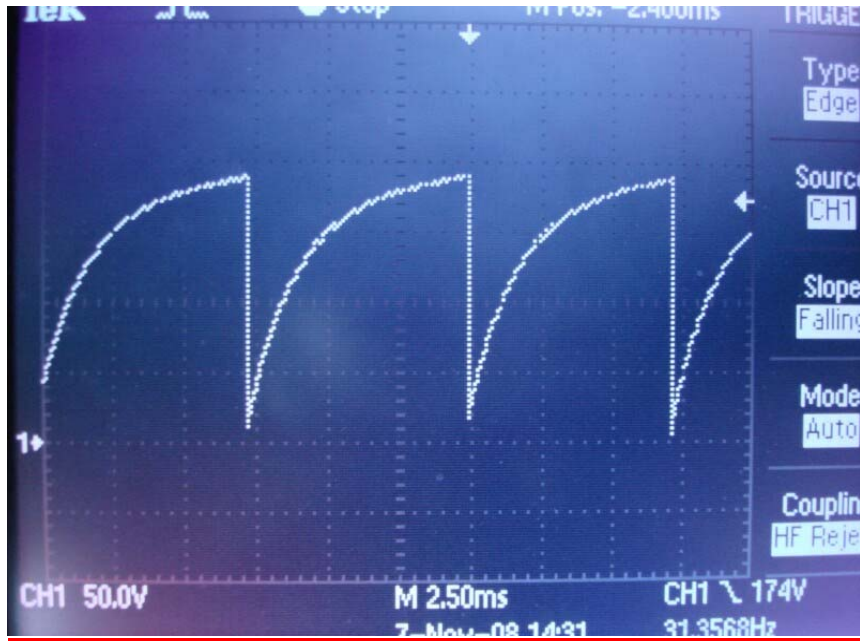


Now that I am generating ALL of the power my VexUs circuit uses (that includes the oscillator/inverter power) I can give you REAL power usage figures for the VexUs circuit.

At idle: 8A @ 13.8VDC = 110.4 Watts  
 At 4500 RPM: 10A @ 13.8 VDC = 138 Watts

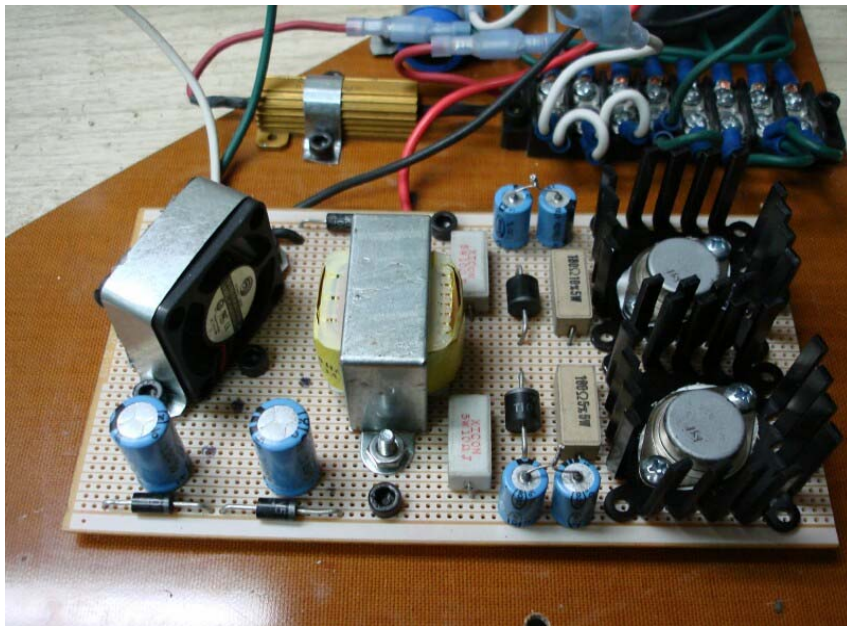
What is interesting to note is that my modest little spark computes to only 0.08 Joules of energy discharge  $4\mu\text{F} \times 200\text{VDC}$ ! I am working on my oscillator to make the actual power required to generate that (small amount of) energy and power more in line WITH it. The picture below is at about 4300 RPM. It shows the  $4\mu\text{F}$  cap charge trace (very classic, typical - through an R1 of 500 Ohms) and the discharge trace (almost instantaneous, vertical).





**Oscillator plus voltage multiplier**

The oscillator, mounted the xformer, mounted the fan, mounted the board on the VW engine compartment back plane. Here's a pic of the board and a pic of the waveform. It is about 300VAC P-P @70 hz. and 247 VDC at the storage Cap.



The oscillator-part is from the transformer and to the right. The voltage multiplier is the two diodes and two caps at the lower left and then there's the fan (1-1/2 square).It sags

a little more than I like at high speed (2400 RPM, 4 cycles per rev = 160 cps). It droops to about 165 VDC at that speed but that's plenty to bring the plasma event.

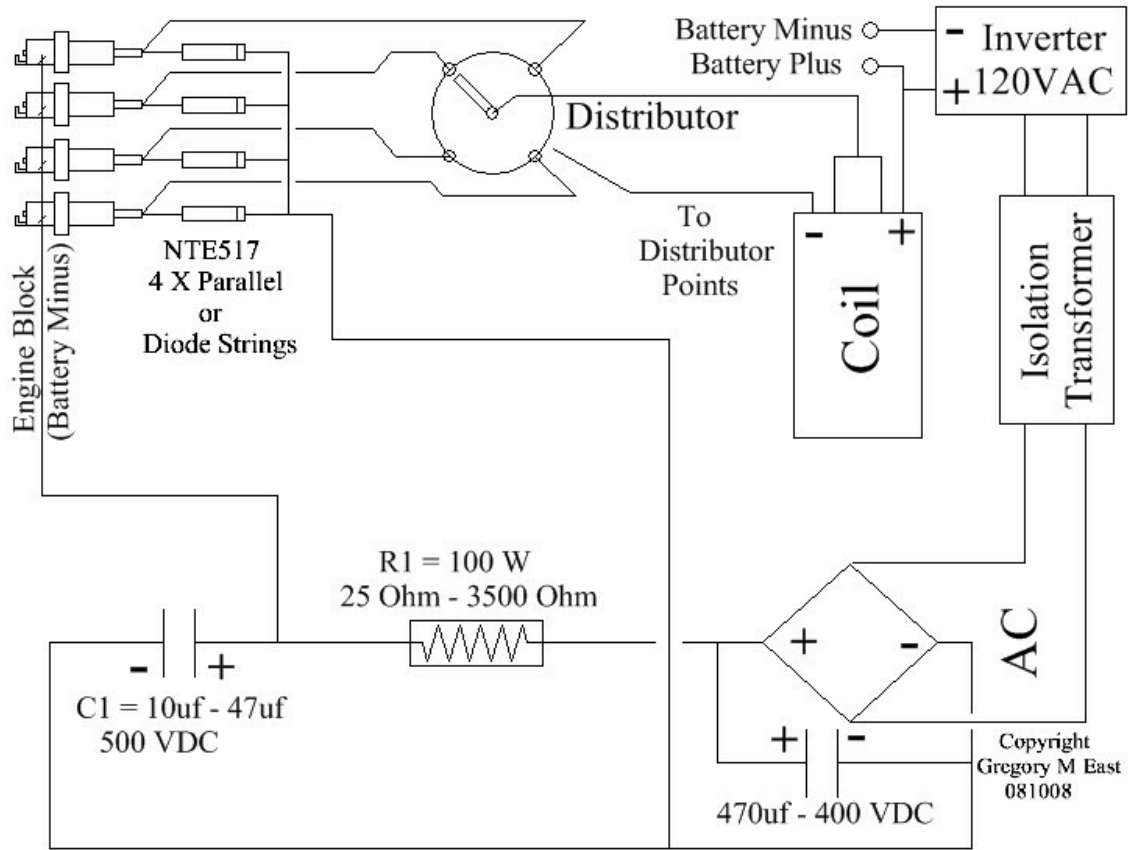
The oscillator plus voltage multiplier seems successful. It's in the Bug and runs fine. The plasma spark is modest but still a plasma spark and explodes water easily. I have gone to higher voltage and lower capacitance at the CDI Cap. The discharge is very, very fast and hard to capture the true intensity with the camera. Mike understands where I'm coming from on this issue. The transformer warms up a little at prolonged higher RPM while driving around, but I can correct that by directing the flow from the chassis fan better. I think I have proven that (at least my) inverters suffered control CMOS failure followed by self destruction from random power FET firing.

I'm very satisfied and confident that I can proceed to test various emulsions with this ignition system. I'm able to easily change CDI Cap values and can improve the efficiency of the voltage multiplier. My R1 resistor is 120 Ohms x 10 Watts and barely gets warm so this thing is drawing very little power. The main components in the oscillator are rated at only 5 Watts and just lope along at only modest temperatures warm but not hot. The video is at: [YouTube - VexUs - New oscillator installation in BUG](#)

### **VexUs Hybrid CDI**

It should be noted that in the following VexUs circuit diagram the choice of R1 and C1 are critical to the frequency response the circuit will have. For instance if C1 is 22uf and R1 is 55ohms then one RC time constant is 0.0012 seconds. 5X RC gives you a quick enough charge for a 4-cylinder engine turning 5000 RPM. The discharge time is dependent upon the circuit resistance ... it should be kept as low as possible. This will determine how completely the CDI Cap discharges and how much it floats above 0-VDC like shown on the VexUs scope trace in the last video. In the video I used a 0 - 3500 ohm pot just for test and development since I didn't know what to expect. This is all new to me too.

The mechanism of the circuit is no mystery. Most welding equipment especially Tig welding equipment have a feature called 'high frequency start'. In this type of welding you use a torch that's not really a torch but an electrode holder with a sharp tungsten tip shrouded in inert gas. A high current arc is generated between this tungsten tip and the work piece and that's the heat source. To start the welding arc you normally would need to touch the tungsten tip to the work piece. But with 'high freq' a high frequency (low current) spark 'dances' around in the gap between the tungsten and the work piece ionizing the space and making it very conductive. The high current welding arc now starts all by itself. This is likely what is happening in our circuits. The regular ignition spark is ionizing the spark plug gap allowing the higher current stored in the CDI Cap to flow.

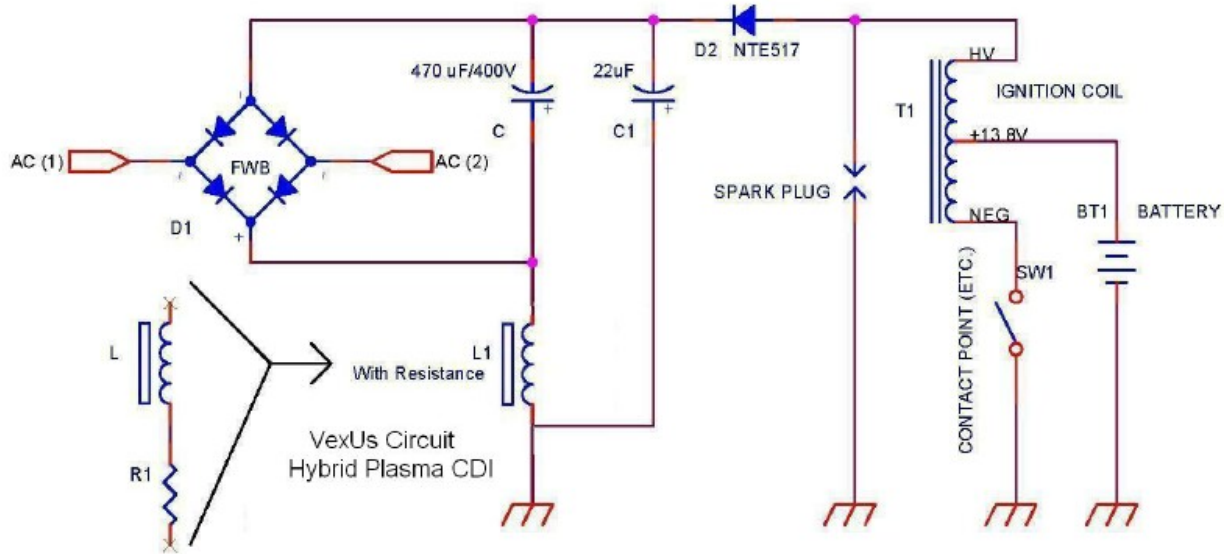


## HYBRID PLASMA CDI

Updated



### Greg's VexUs Hybrid CDI high speed bench test



VexUs Hybrid CDI

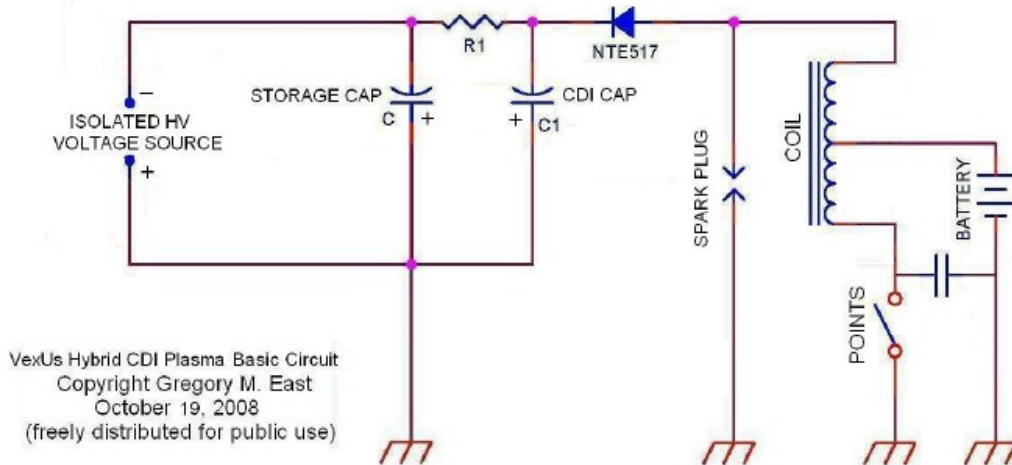
-By Greg [VexUs Hybrid CDI high speed bench test](#)

-By jstadwater007 [V-8 HEI VexUs plasma 2,300 rpm](#)

Plug wear- The lower capacitance and higher voltage = less plug wear. I am on the same set of test plugs here for about two weeks, running the circuit some amount every day. If you have watched my vids, you have seen me spin this V-8 distributor as high as 5,800 rpm. Multiple tests at 4,300 rpm for 30 minutes+. The only thing I see at the tips is a little discoloration from time to time, probably from me spraying tap water on them over and over. I can't help it, I like to watch the water blow up! The discoloration comes right off with a few strokes of a fine wire brush. I see no visible damage on my plug ends at this juncture.-Mike

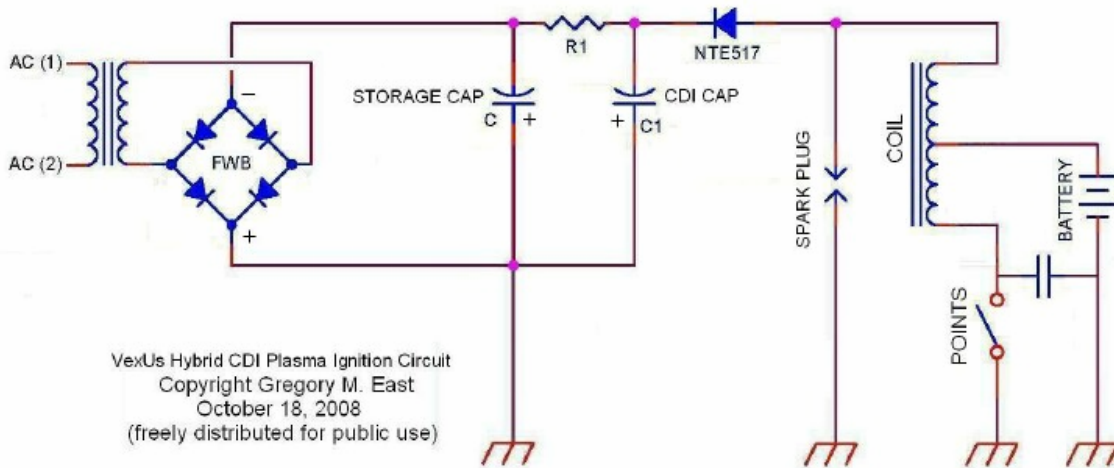
The following is a basic VexUs circuit as a frame of reference for discussion as needed in addressing the inverter conflict issues recently observed. The VexUs circuit somehow generates a huge spike that fools the inverter electronics into thinking there is a short circuit. I have been using a cheap 400 Watt inverter with no real internal protection.

I'm trying to get a scope picture of the phenomenon while running on wall AC. Don't ruin any inverters you guys before I find a fix. It is a basic issue; there is so little current draw in this circuit that it can only be how the HV DC is being introduced. It may be an RF level phenomenon which can be shielded. There is some indication that a spike is frying the CMOS circuitry. I'm also going to build a "dumb" 3055 transistor oscillator for the HV pump ... probably use voltage doublers ladders to get the voltage.



**VexUs - configuration update - simpler to understand**

I wanted to post a VexUs circuit configuration update. I have moved the current limiter to a more logical location and in so doing made a hard mate between the FWB + and the chassis ground. The potentials are the same as the original and the theory is the same. What I've done should make filtering, shielding, instrumenting and all other interfacing easier to do.



As far as the VexUs circuit goes, the isolation transformer is to 'release' part of the circuit so the + Cap charge can go below VDC -. IOW so the CDI Cap charge can be relative



and decoupled from DC ground until the plug fires ... it is to 'isolate' the charge potentials from the battery.

There is NO charging speed issues if folks will pay attention to the RC time constant relation between R1 and C1. Just compute  $5 \times R1C1$  to be the shortest period for the highest operational charge frequency expected. This is the control I intended when I came up with the VexUs to begin with some simple controllable variables.

An earlier design uses a charge Fet and a discharge Fet to create a classic CDI system with the plasma feature. That was beyond the comfort level for many and besides, we were all looking for a system that could be 'piggybacked' onto any engine so that the plug spark acted as the 'switch' no circuits, no gate drivers, no opto-couplers, etc.

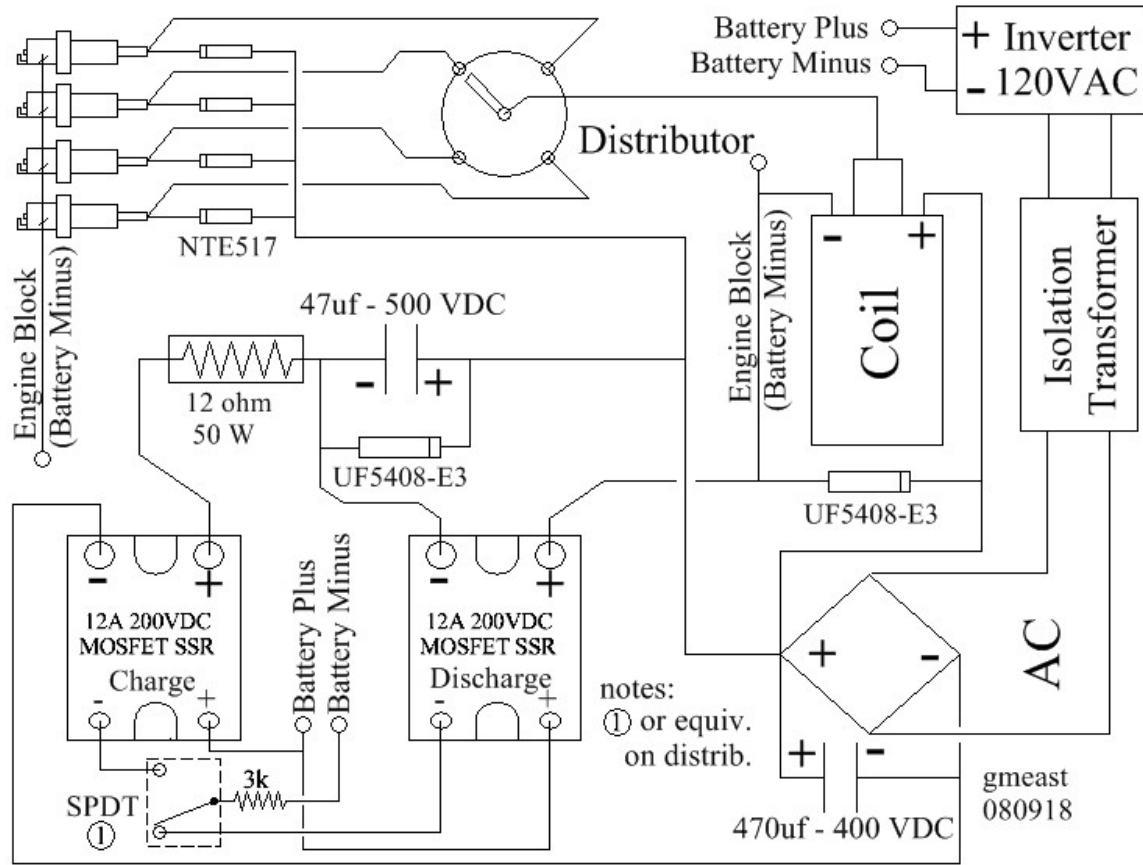
I have moved away from inverters altogether. I have built the simplest of oscillators - a two transistor DC-AC device with a voltage doubler. I got a scope-wise look at the 'death' event that fried one of my inverters and it appears that the failure (at least on my stuff) is related to the C-MOS circuitry in the inverter controls getting fried first then followed by random firing of the power FETS in the inverter resulting in shorting and burnout.

The inverter has an internal 50 A fuse that is blown. All of those have always been blown. If this theory proves out then my transistor oscillator should live ... no control circuitry just two power transistors and a couple of diodes, some resistors, etc.

### **Super Isolated Plasma CDI**

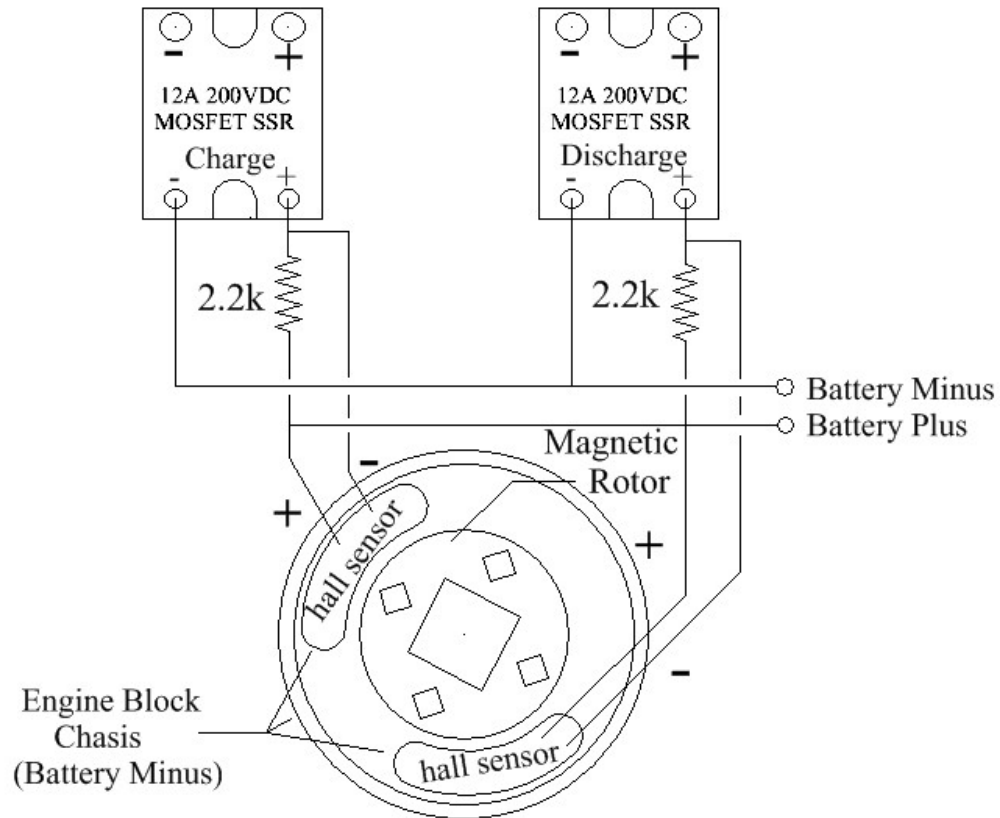
I've completed the design and testing of a twin Hall Effect control for the CDI system I've built. The diagram shows looking down into the distributor with cap and rotor removed. It's somewhat pictorial. One Hall Effect sensor is for the charge pulse and the other is for the discharge pulse. The 2.2k ohm resistors play a dual role. First, each acts as a pull-up resistor. When one of the magnets (little squares on the rotor) passes by the sensor, the 'minus' wire from the sensor goes to high impedance and the 2.2k resistor yanks the 'plus' side of the Mosfet opto up and turning the Mosfet "on". When the window has passed, the sensor yanks it to ground and the Mosfet is turned "off" again. The other purpose of the 2.2k resistor is as a current limiter for the Mosfet's opto. circuitry.



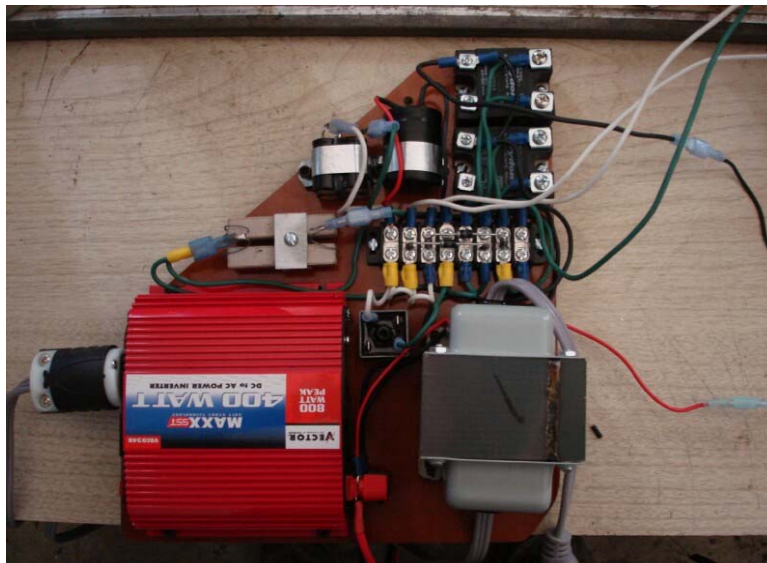


### SUPERISOLATED PLASMA CDI

This can also be accomplished with just one sensor but would require a "break before make" inverted signal for the opposite circuit. It's easier to add a sensor and resistor than it is to design, build and troubleshoot a circuit.



Distributor  
SUPERISOLATED PLASMA CDI HALL SPDT



Example of installation



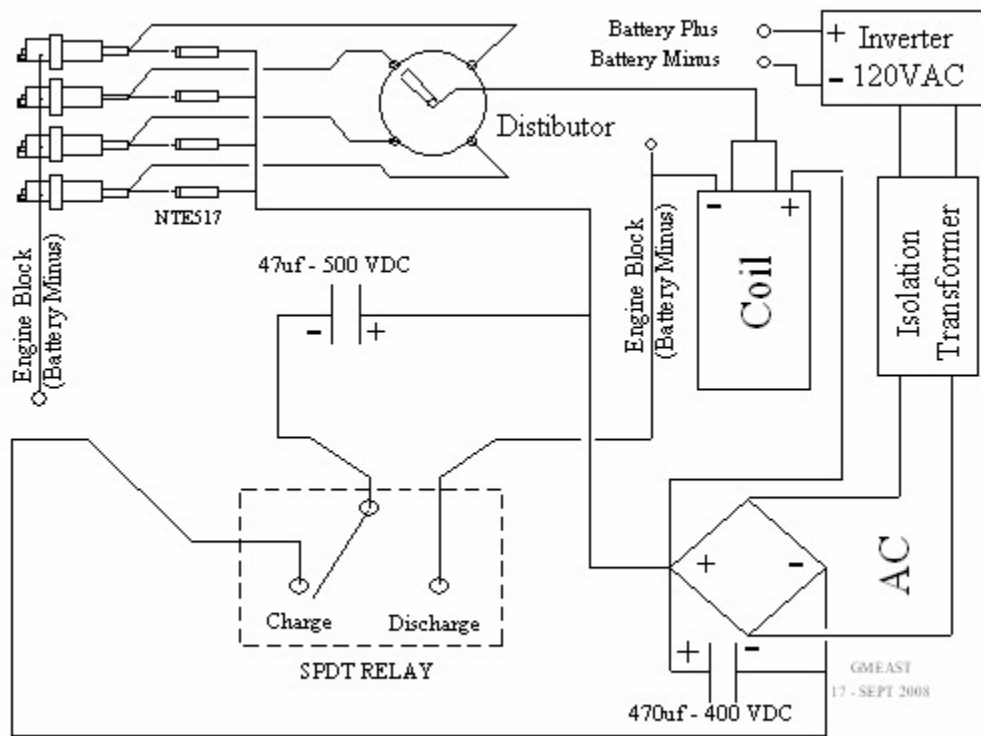
Example of installation

I have posted a short video showing the final bench testing and demo of the original Gotoluc-Lindemann isolated water spark plug circuit configured for a 4-cylinder engine. The hardware is ready for installation in a vehicle and I'll be placing it in my '64 VW Bug.

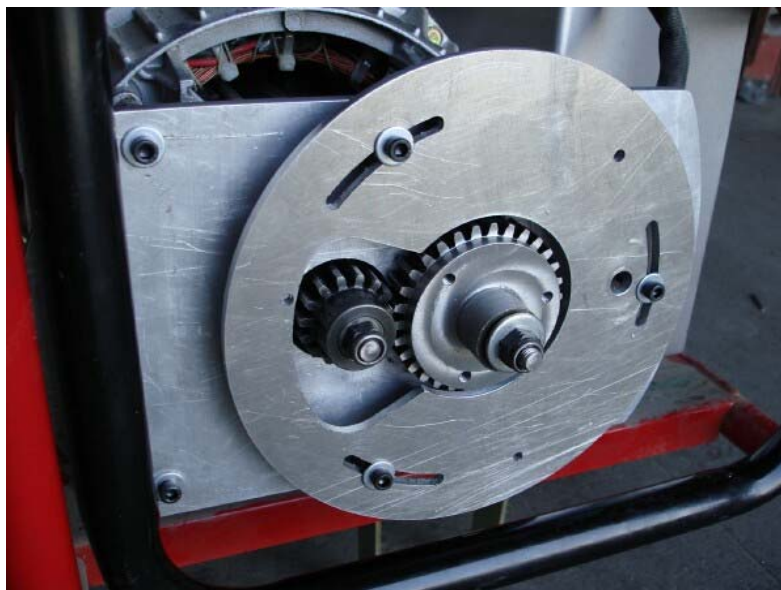
[YouTube - final bench test - distributed plasma CDI](#)

[This Video](#) shows adaptation of the core water spark plug circuit principles to multiple spark plugs. I'm not sure if this will be of use for the Nexus style circuit but I solved the frequency issue for my type of CDI producing your water spark effect. It needs to be said that my circuit triggering method is NOT what you would put in a vehicle. The proper technique is either Hall Effect or optical chopper on the distributor shaft. The diagram below solves my frequency issue by replacing the Charge Triac with a Charge Power Mosfet. I also added a 470 uf -400 VDC Cap shown right under the FWB. This makes a DC power supply of sorts. The circuit has never been more stable I am so happy!. To anyone looking to experiment with a multiple spark plug CDI Plasma system, this is a very stable configuration. In 'real' CDI systems the charge side is usually more sophisticated but the big Cap, FWB and Power Mosfet has solved several technical challenges using easily obtained components.

A diagram showing the equivalent circuit using a simple single relay



SUPERISOLATED PLASMA CDI IGNITION



2:1 gear reducer on his generator set

The plate with the slots is the timing plate and that will have the reed switches for the charge and discharge components. The driven gear will have the rotor with the

magnet on it. I'll eventually go to Hall or Opto but for now its reed switches.

All of these systems that use inverters have a potential 'speed limit' because of the 60 Hz. You can reach resonance. I solved that with my latest Mod. The first diagram is the original circuit using an isolation transformer plugged into the wall. The second diagram is for multiple plugs but shows the swap out of the charge Triac with a power Mosfet package with integral opto isolated trigger. It is a Crydom D2D12 ... 200VDC & 12A - expensive \$60.00 ... I didn't want to design any of the trigger electronics for a cheap Mosfet so I used the Crydom. Never allow the charge and discharge components to fire at the same time or you'll have a Crydom paperweight. Once the reed switches were too close together, I set a magnet down near them and bzzzzz - poof "@#%\$!". I don't recommend building any of this ... blah, blah, blah, but if you do use the first diagram with the swap out of the second. The third diagram is the equiv. circuit of the second diagram. And you can use long strings of cheap 1000VDC-3AMP diodes (like everyone else) instead of the expensive NTE517 I use.

### VW results

Old VW very peppy now. Lugging the engine at full throttle it doesn't miss a beat ... you can feel every cylinder fire. Most importantly, I did not have to choke the engine to warm it up. All engines need a richer mixture to warm up on, but It took right off without hesitation. This by itself is an unexpected potential fuel savings. It is very exciting! Next will be gasoline and alcohol emulsions then experimentation with distilled water.

### [Video -Plasma CDI Installed in My VW Bug](#)

**Much less pungent odor from the exhaust. No smoke. Don't need to choke to warm up. Solid combustion, better low end torque, and more.**

Now I begin the work of making it all meaningful. Already there are some mods that are for the convenience of telemetry / monitoring. First I have relocated the diode clusters to a more accessible location for monitoring. The first photo shows the clusters hanging from the air filter can and the feeds going directly to the distributor (small brown wires). The purple wire (common) ties to the white wire (primary plus side of the coil). The carbon plug wires have been replaced by solid wire cables (blue plug cables) that makes tying directly to the distributor possible.

The second photo is a baseline photo of No. 3 spark plug for the purposes of monitoring the effect of the plasma discharge on the plug. The gap is .023 inch. The spark plugs are non resistor (copper core).

The circuit I am using is an adaptation of the very original circuit that Gotoluc demonstrated and then opened this thread. In my circuit, the Cap is isolated and

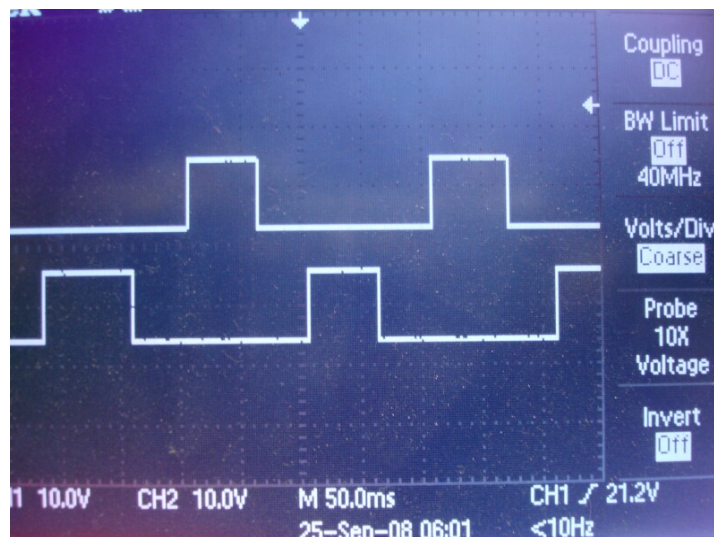
charged, and then it is isolated again and then discharged to the coil as a pulse. This can be done with a SPDT relay but the points will die early and can't cycle very fast.

If you could cram a second set of points into the distributor housing then you could use standard points to trigger the power Mosfets I use. But I chose to use a standard points conversion for VW's that replaces the points with a solid state sensor and then added an extra sensor ... one for Charging the Cap and one for Discharging the Cap to the Coil.

The Nexus circuit (listed below) uses the standard coil, points and voltage then 'piggybacks' a plasma spark onto the standard spark using the standard spark as a 'starter' path for the plasma to cross the gap on .... like a Tig welding machine with 'high-frequency soft- start' GENIUS. I chose to use the original circuit concept and made it solid state ... for science reasons. Please note that my system uses much lower voltage to the Cap than other systems because of my choice of power Mosfets voltage limitations, cost, availability, etc.

Diode strings can be used in place of the parallel diodes I use. I use 4ea. parallel per channel to get a higher current capability. Because I use lower voltage, I did not want the IxR and/or cascading loss(s) of multiple diode drops in the long diode strings.

This pic is a scope capture of charge and discharge trigger signals from the modified distributor. My rendition of the original circuit is more difficult to make than the Nexus circuit but many here are capable of pulling it off: Not shown are the 1A fuses into and out of the isolation transformer ... these are a "must-have" to protect the components.

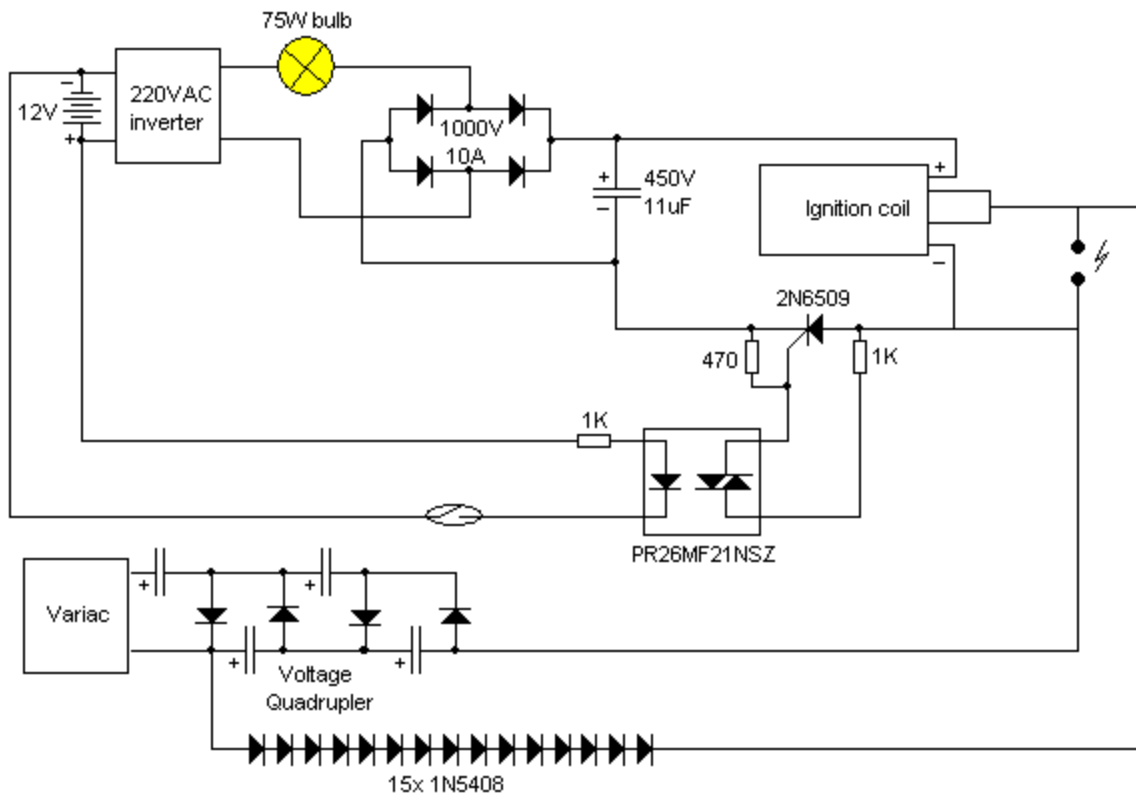




## Jetijs research

### [Water spark test on a gas generator](#) by Jetijs

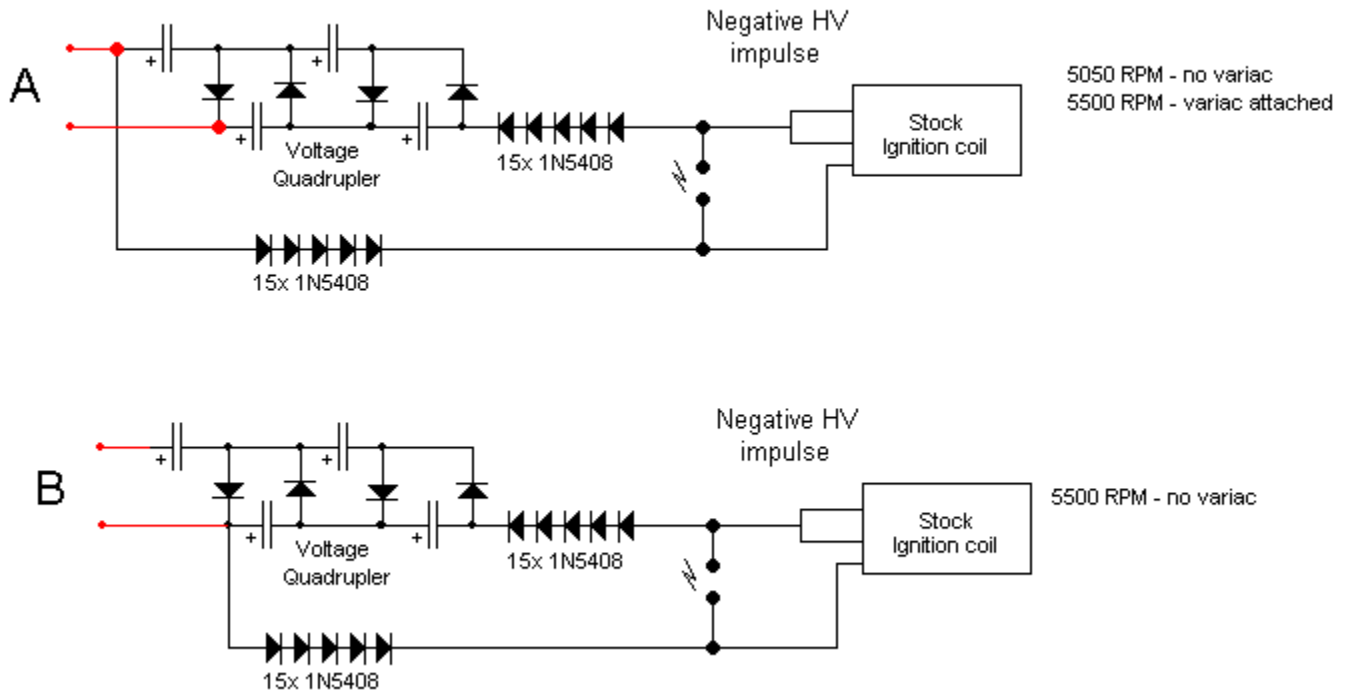
It's the same as on the motorcycle, the RPM increased when plasma system ON and back to normal in OFF (original ignition system). This video proved that the plasma absolutely increases what is burning. We found this on the lawnmower and Revizal evidently is seeing this with his bike.



I tested my generator some more, but I can't get the RPM's constant and smooth as it is with the stock ignition and magneto setup. I suppose the 50Hz AC from the variac is to blame for this, also I can see the light bulb getting brighter and dimmer in a wave fashion. This is also a sign that the 50Hz is causing trouble, because this way the caps are not always charged up to the same voltage. And this is without a booster side. I guess I will have to make a DC to DC step up converter that works at much higher frequency to solve this problem.

Anyway, I decided to try a different test. I wanted just to attach the LV side to the stock ignition coil at stock timings and see what happens. At first it was not working, because the HV impulse form the stock ignition coil was with a negative polarity, so I switched

the LV side wires around. At first I just wanted to see if it will work with the LV side connected, but not turned ON. I was very surprised when I heard an increase in the RPM just by plugging the LV side voltage quadrupler into the variac, because the variac was NOT plugged in the wall outlet. When I pulled the quadrupler leads out of the variac, the RPM's decreased. I did this several times and every time it worked the same. This is the schematic I used:



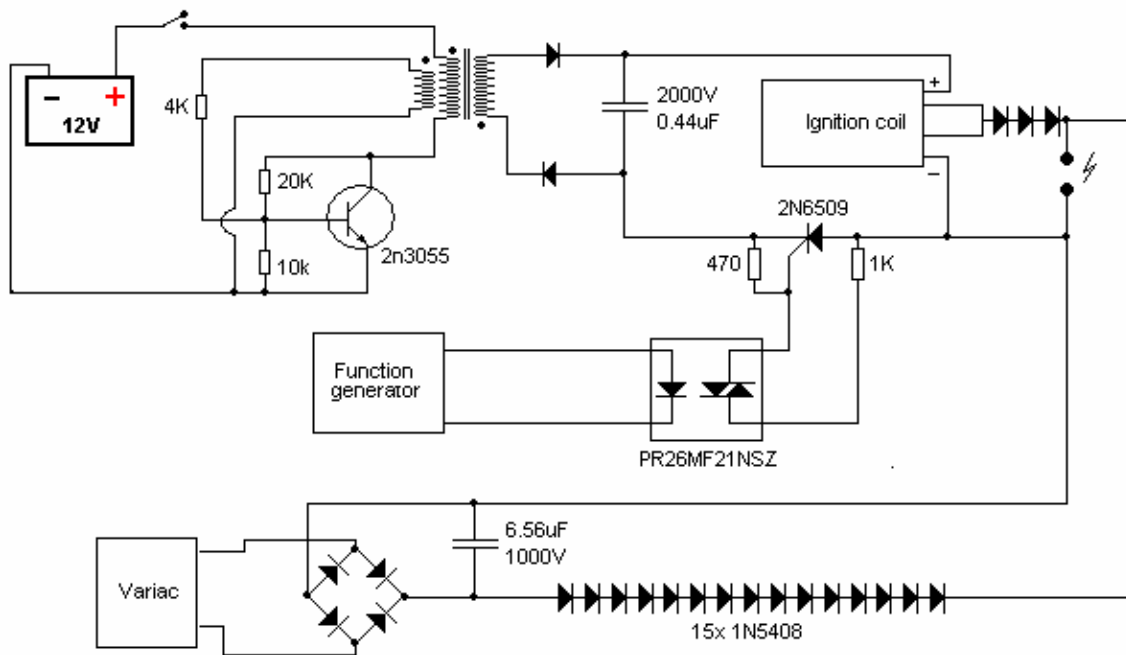
If we look at the diagram, we see that all the diodes already form the basic water spark circuit by blocking the ignition coil negative HV output to ground, so why does the effect happen only if the quadrupler is connected to the variac?. Here is a video about this: [YouTube - Stock ignition boosted/not boosted with LV side](#)

Circuit A is exactly what I used before and if the variac was attached to the red wires, the RPM's increased. I measured the RPM's on my bigger reductor wheel, but there is probably a mistake in the laser tachometer readings, because if the bigger wheel rotated at 5k RPM, that means that the real RPM's of the engine should be 10k and it just did not sound like it was going so fast. Anyway, when I used circuit A, I had to attach the red leads to the variac for the RPM's to increase. I noticed that every time I did this, the small voltmeter needle on the variac jumped a little.

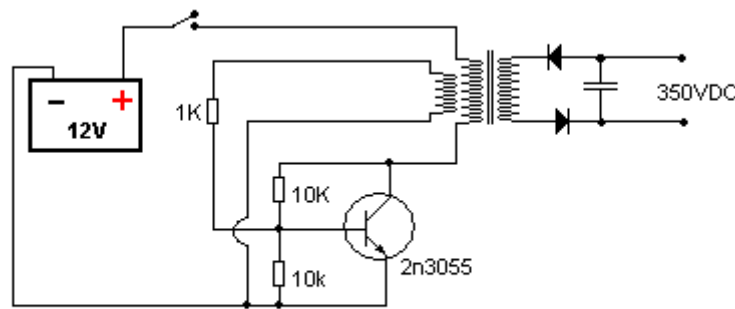
Then I tried to short the red leads using a screwdriver, a small spark appeared when shorting the leads (not like a HV spark, more like an ordinary spark from shorted LV

capacitor) and the RPM's increased again. That means that the coil in the variac does not make any noticeable difference. Then I tried the circuit B and when I started the generator engine, the RPMs quickly jumped to the same value as with the circuit A and shorted red wires.

To solve the frequency problem I searched all over the web for already commercial available dc to dc step up converters but with no luck. So I decided to use my trifilar coil form a Bedini SSG and make it into a self oscillator with the third winding used for charging. This way I can step up the voltage from 12v to 350V and the trifilar coil acts like an isolation transformer in the same time. This setup can charge up three 450V 100uF caps in series to 350v drawing 12v 0.4A form the battery. I did not connect a scope to the transistor, but from what I hear, the switching frequency is in the KHz range. Here is a Bedini self oscillator circuit I used:



I used some copper coated welding rods as the coil core. I took three wires, each about 50 meters long, and then I twisted them together so that they form one thicker wire (Litz wire) and then I just wound that big wire on the coil core. The coil has about 400-450 windings. All three wires are AWG 21. But there is no need to twist the wires, there is no need for copper coated welding rods - any bolt will do fine. Also the wire gauge is not that important, you can use anything from 18-25. Just the windings should be at least 400 Also you don't even need a trifilar coil, you can just as well use a bifilar coil like this:



The problem is not in the frequency. It turned out that the problem is in too large capacitance of the booster side cap. At first I was using a voltage quadrupler with four 100uF 450V caps. I could go up to 1000V on the booster side, but if the discharge frequency was set to 25Hz (the minimum that I need), then there was an ordinary spark on every discharge, but the intensified spark appeared only on every fourth or fifth discharge. I could hold up with the frequency till 100Hz, but the intensified spark appeared only some 4-5 times a second. So I decreased the booster side capacity. I replaced the quadrupler with a bridge rectifier that charges up a 0.82uF 1000V cap through a light bulb.

When I turned the variac to full voltage, there was about 300V in the cap. I turned the primary side ON at 100Hz frequency and there was an intensified spark on every discharge. But the effect was rather small, so I doubled the capacity. This made a bigger plasma and was still capable to handle the 100Hz. I increased the capacitance by 0.82uF on each test and the intensified spark seemed to become brighter and louder with each test. I got the capacity up to 6.56 uF, but the spark was the same as when using only about 4uF. So that must be the right capacity. Unfortunately I have only six of those polypropylene caps so I can not make a voltage doublers keeping the same capacity.

I already tried that using two 2.46uF caps for the doubler, each made out of three 0.82uF caps in parallel, the spark was almost the same, maybe a little brighter. So I guess that if I increased the voltage keeping the same capacity, I could get bigger blasts. Also I noticed that the bigger capacity on the booster side, the greater also the power consumption from the variac. At capacitance of 6.56 uF, the power consumption from the variac was about 35W. Also, the more power we feed into the spark from the LV side, the hotter the spark plug electrodes become.

[Here is a small video with the intensified spark about 50Hz:](#)

**Ossie's experiments**

The following are the links to all my important posts so far that contain the circuit diagrams, pictures, construction details and information on the process and what I observe. Please read them all carefully. To do this practically is pretty simple. I am very busy and can't spend much time helping others with building info. So please help each other and I will help when I where I get time to. If you show this information to someone with an electronics background and experience, they will have no problem building and replicating this. So please seek help from whoever if you are having difficulty, even if they don't believe it because once it is working, they will believe indeed.

<http://www.overunity.com/index.php/topic,5024.msg108614.html#msg108614>

<http://www.overunity.com/index.php/topic,5024.msg108731.html#msg108731>

<http://www.overunity.com/index.php/topic,5024.msg108838.html#msg108838>

<http://www.overunity.com/index.php/topic,5024.msg108956.html#msg108956>

<http://www.overunity.com/index.php/topic,5024.msg109072.html#msg109072>

Also, please save any gratitude for Luc who stepped out and first showed how he produced the effect in a simple circuit setup and encouraged others to replicate it with this thread. Because an ignition coil is basically inductor, it will have back emf. So this means the output essentially will be AC. Whether the main HV pulse is on the positive or negative side of the AC wave output will be determined by the circuit driving the primary of the ignition coil. If you look at the circuits I have posted, you will see that this is not consistent and wholly reliant on the overall circuit. So this can be a source of confusion and problem in terms of polarity for those who are trying to come up with their own circuits. I can only suggest that a reverse diode across the primary of the ignition coil will keep the output polarity consistent if that is what you are after.

thought it important to point something out regarding previous work related to this topic. There are many videos and demonstrations and documentation of water being burnt and exploded using very high power and powerful arc discharges. These are brute force devices and setups where in most cases more electrical energy is being put into the device than is being generated by the water combustion.

This is NOT what we are doing and have demonstrated in this thread. The devices and setups we are showing in this thread are using small amounts of electrical energy to cause the combustion of water which releases more energy than what was put in electrically. What is unique in our circuits here, when compared to previous examples on the internet, is that we are utilizing the HV spark from an ignition coil as the precursor that allows enough ionization of the air in the spark gap to conduct the minimum required energy pulse of 100-300 volts through the spark gap and the surrounding moisture near it. This results in the moisture/water exploding and thus releasing the energy contained in it. This process only requires minimal energy pulses in addition to the ignition spark and is very efficient.

We have developed these devices in an attempt to duplicate the work of s1r9a9m9 who has been able to demonstrate that he can run an engine solely on water instead of petrol by using a similar setup which uses the same process here as described. He in fact claims to have run his adapted V8 automobile for 30,000 miles at a fuel efficiency rate of 300 miles per gallon of water. Most of us could not believe such claims but now after being able to reproduce the effect of being able to explode water with minimal energy input, it appears that what s1r9a9m9 claims is indeed possible.

So please do not find videos and demonstrations of people burning and exploding water with powerful arc discharges and assume it is the same thing we are doing here because it is not. The process we are demonstrating here is very efficient to the point that it CAN be adapted to existing combustion engines to allow the engine to be run solely on water fed directly through the engine's existing fuel system. The adaption would be applied only to the engines existing ignition system.

If you are using 110V from the wall and your 1:1 toroid transformer is big enough, all you are seeing is a standard arc discharge as that in an arc welder. The ignition spark will simply be providing the ionization for the arc to start. Just as in arc welders that have a HF spark start so that you don't need to touch the electrode and risk sticking to get the arc going. So you will find that your input energy will be significant. That is not to say that this won't be effective to test on an engine as I think it might be a good and simple test rig to prove that you can fire an engine with water in the cylinder. But I don't think it would be an efficient way to get an engine running on water in a stand alone setup. For this we need to get the electrical energy input down.

I have also gotten such a bright arc effect like an arc welder by using my simple security strobe setup/circuit and connecting 5 or 6 12V lead acid batteries in series with a large HV diode (diodes) across the spark plug. Yes the spark plug will glow red and perish and it will use heaps of input energy and be nothing more than a brute force device.

It is quite correct that you only need amps. But then the question of at what voltage the amps needs to be applied is purely determined by the voltage across the spark plug gap when hit by the ionising HV pulse of the ignition coil. The voltage from your battery or inverter or other power supply that is to provide the amps needs to be higher than the voltage across the ionised spark plug gap for the energy to flow into the ionised gap and produce the plasma.

The voltage of the ionised spark gap is determined by a number of factors. In particular is the spark gap distance, as well as the conductivity of the air in which moisture plays a role and finally there is the voltage and current coming from the ignition coil/pulse.



In practice I have found that by reducing the spark gap to as small as about .3 mm I can get the plasma to occur with applied voltages as low as 24 volts. But a gap so small is not too functional and is prone to clogging and shorting. A good size gap needs at least 90-100 volts applied to the spark gap to produce the plasma.

In regard to the power required. A continuous DC source will only waste input energy if one is to take advantage and increase the overall efficiency of the process. Increasing the efficiency must be done by altering the time that the minimum required energy to produce the plasma and explode the required amount of water is applied. This must be done with a DC pulse discharge for the minimum time period required. Typically a capacitor discharge performs this purpose well.

In regard to the output energy from the exploding water, if we were to make a comparative analysis, with the assumption that the exploding water process yields more output energy than the electrical energy put into the process, with a petrol explosion that is also ignited by the same spark we would find that the total output energy is not caused by the localized process of the ignition spark igniting the petrol, but we would find that it is the chain reaction in the petrol gas where each igniting gas molecule releases more energy that ignites the next molecule, and so on until all or most of the petrol gas has been ignited. If we apply this same analysis to water we would also find that if the exploding water indeed produced more energy than what was required to ignite it, then we may also assume that a chain reaction will take place where the water molecules will continue to ignite themselves until most or all have been ignited. But the water needs to be under the right pressurized conditions in the ignition cavity, just like the petrol gas is under the right conditions in the cylinder of a combustion engine.

The xenon tube is only acting as a switch to discharge the 14uf, 350V capacitor inside the strobe light circuit. In regard to the operation of the circuits I have posted, please read through this thread from the beginning as I have describe most things about them in my previous posts. Here is a summary of some of my posts in chronological order.

<http://www.overunity.com/index.php/topic,5024.msg108614.html#msg108614>

<http://www.overunity.com/index.php/topic,5024.msg108731.html#msg108731>

<http://www.overunity.com/index.php/topic,5024.msg108838.html#msg108838>

<http://www.overunity.com/index.php/topic,5024.msg108956.html#msg108956>

<http://www.overunity.com/index.php/topic,5024.msg109072.html#msg109072>

<http://www.overunity.com/index.php/topic,5024.msg109229.html#msg109229>

<http://www.overunity.com/index.php/topic,5024.msg109420.html#msg109420>

<http://www.overunity.com/index.php/topic,5024.msg109475.html#msg109475>

Please see my previous posts as follows:

<http://www.overunity.com/index.php/topic,5024.msg108614.html#msg108614>

<http://www.overunity.com/index.php/topic,5024.msg108838.html#msg108838>

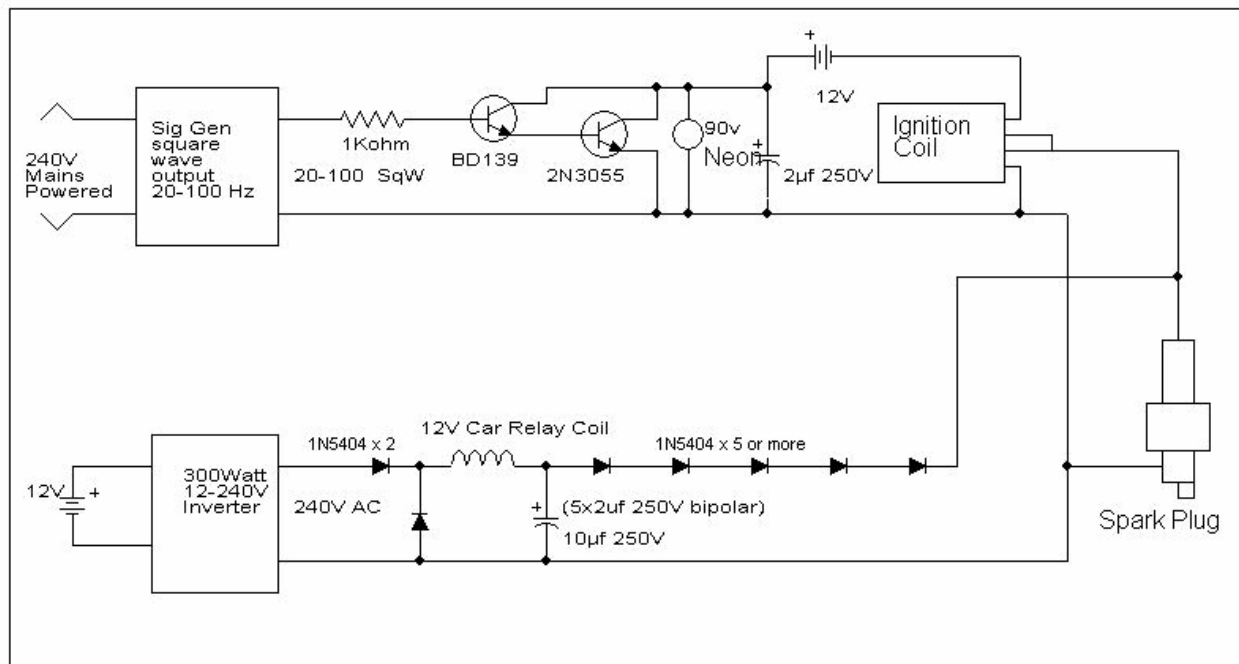
<http://www.overunity.com/index.php/topic,5024.msg109072.html#msg109072>

These circuits simply allow the low voltage high current from the charged capacitor to discharge through the ionized air that the HV spark creates. The LV cannot ionize the air because the voltage is too low. When air is ionized, its resistance is lowered dramatically allowing the LV and current from the capacitor to discharge through it.

This is completely analogous to what occurs in a xenon flash tube. The 300 or so volts sitting across the xenon tube is not enough to ionize the xenon gas and discharge the capacitor current via the tube. But when a HV trigger pulse is generated from a trigger transformer and directed to the gas in the tube, the xenon gas ionizes and as such it's resistance drops allowing the 300V capacitor energy to flow through it which results in a bright flash from the tube. This is exactly what we are doing here with these circuits but instead, the air is our xenon gas and an ignition coil is our trigger transformer.

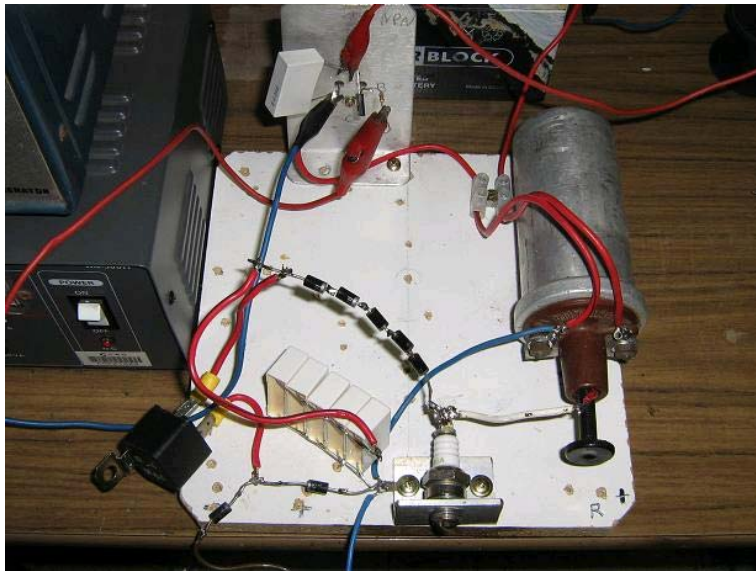
As far as the water explosions are concerned, what is new here is how such a simple, and now, well understood circuit can create such a plasma discharge in air so easily that it causes liquid water to explode when it comes into contact with the plasma discharge.

### Ossie's recent tests



Please see my latest video here: <http://www.youtube.com/m1a9r9s9>

Whilst further endeavoring to increase the efficiency of the capacitor discharge circuit, tests revealed that a great deal of energy is wasted whilst the plasma is on because the power supply is still connected and as such is also powering the plasma even after the capacitor discharge is complete. This causes a great deal of wasted energy in heat and the requirement for a loading resistor in series with the power supply which also wastes energy in the form of heat.



Further analysis revealed that there was a requirement to disconnect the power supply whilst the capacitor discharged into the plasma so as not to waste energy. Forgoing a complex HV switching circuit, I found that an inductor could assist in holding the wasted energy from the power supply whilst the capacitor is discharging into the plasma and then when the plasma switches off, the back emf of the inductor will dump it's stored energy into the capacitor ready for the next discharge and so the power supply energy is not wasted but used. Please see the circuit diagram below.

As you can see in the video, this circuit is not only very simple but it is very efficient in getting most of the input energy to the plasma discharge. The plasma is so bright that it is like a welding arc but WITHOUT the heat when water is used, or else the spark plug does get warm but not hot if left dry. I have used this circuit continuously at pulse rates from 20 to 100 Hz with no problems and very little heat in any components.

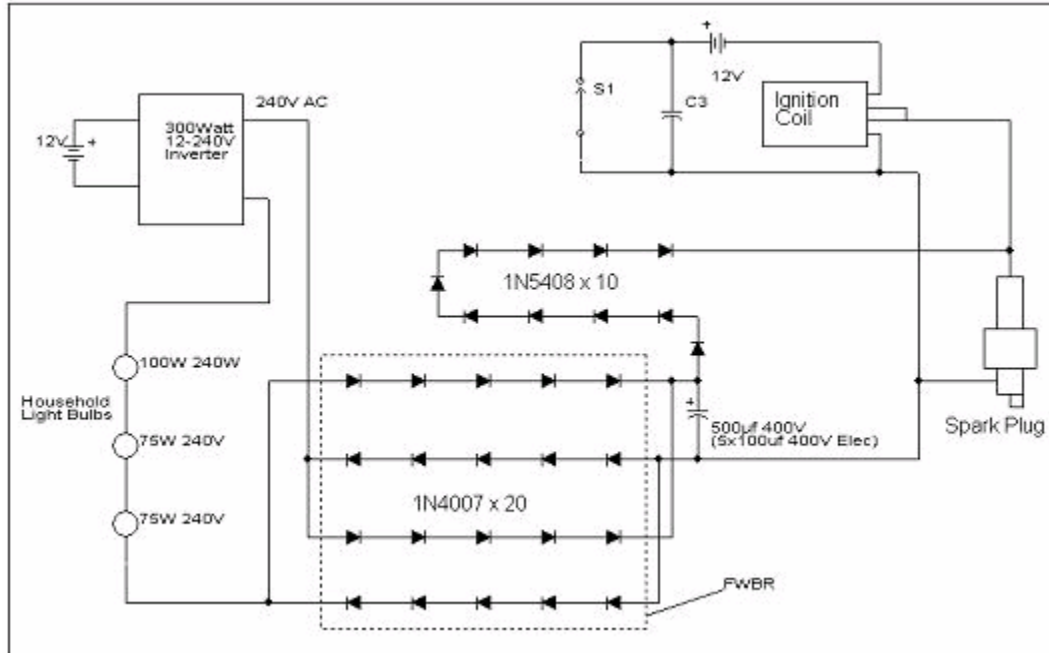
At higher pulse rates it is difficult getting enough water into the plasma but if you manage to, it will shoot out like a jet engine flame with an equivalently loud noise as

well. The light is so bright that I recommend dark glasses whilst testing this circuit and the noise is so loud, whilst pumping water into it continuously from high pulse rate explosions, that I also recommend ear plugs as my ears are still ringing...At pulse rates from 20-70 Hz the input current at 12 volts to the inverter was between 2.5 and 5 amps. For the inductor I simply used a 12V standard car relay coil. In my opinion I believe that this circuit so far will perform the best on a real engine. So I think I am ready for this step next.

I understand that many may be eager to attempt to start building these circuits to test them but I must stress that unless you understand how they operate, as well as have some experience in building and testing electronic circuits, it is likely to be an expensive and possibly also dangerous exercise for you. So please understand what you are building and how it works before you proceed as there are many traps for the inexperienced.

One of these traps that is most likely the cause of people blowing up their all solid state inverters is that the HV pulse from an ignition coil can be either positive or negative. In all of my circuits, the ignition coil pulse is always positive. But in practise, it can be either. To accommodate this you will need to make sure your inverter's input and output is isolated fully from the ignition coil circuit. There must not be any common ground connections. You must then test the polarity of your ignition coil's output pulse by using a long string of LV diodes or some HV microwave oven diodes, preferable 3 or four in series, to prove if the HV pulse coming out of your ignition coil is negative or positive. Once you have proved this, then when you connect the output of the diode string from your inverter circuit, you will connect it to the spark plug positive if your ignition coil pulse is positive or to the spark plug ground, if your ignition coil pulse is negative.

"Proof Of Concept" videos :



Just some errata pointed out to me by Ben on the schematic of my last post of the Proof Of Concept setup. The household light globes are mistakenly drawn in series but are actually connected in parallel relative to each other only. Also, the output from the string of diodes in the discharge circuit should be connected to the spark plug's ground base and not it's top pin. Apologies for these mistakes.

Video 1- <http://www.youtube.com//m1a9r9s9>

The first video as follows is the overall proof of concept setup which includes a demonstration of the plasma discharge used. Again, the video here no where near comes close to capturing the power in the arc discharge. It is simply just too fast for the video camera!

<http://www.youtube.com/watch?v=lzawIY9jCFk>

The second video as follows is the actual proof of concept demonstration where I show how exploding water from a plasma discharge when applied, in this case to a line trimmer motor, can push the piston of an engine down with significant force.

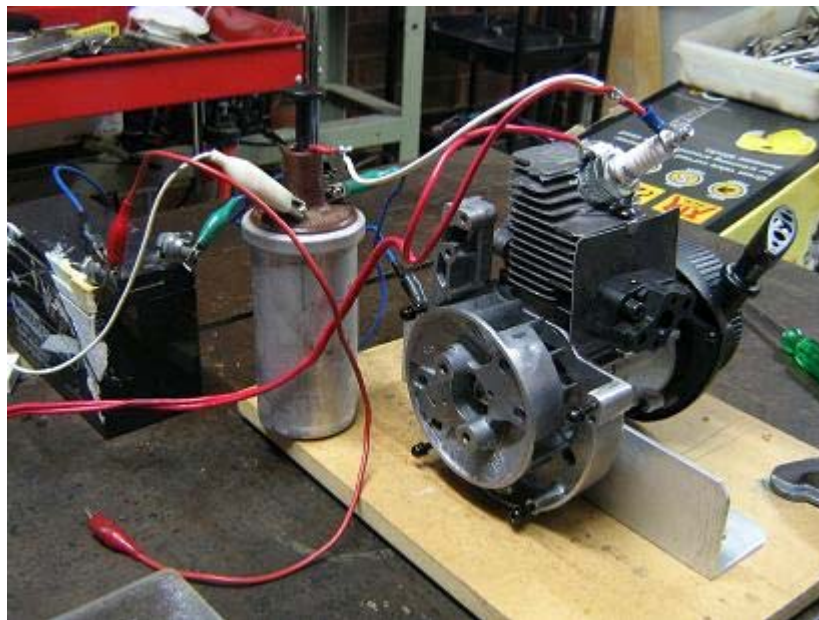
[http://www.youtube.com/watch?v=-OTCqws\\_hsc](http://www.youtube.com/watch?v=-OTCqws_hsc)

The line trimmer motor has been stripped to the bare motor including having the ignition magneto removed as the ignition pulse for this test uses a more powerful standard automotive ignition coil. I also removed the bearing seals as this motor, being new, was quite tight and there was a great deal of friction caused by the bearing seals.

The power supply is simply a derivation of the previous circuits I have posted. The total discharge capacitance used was 500uf. Please see the circuit above.

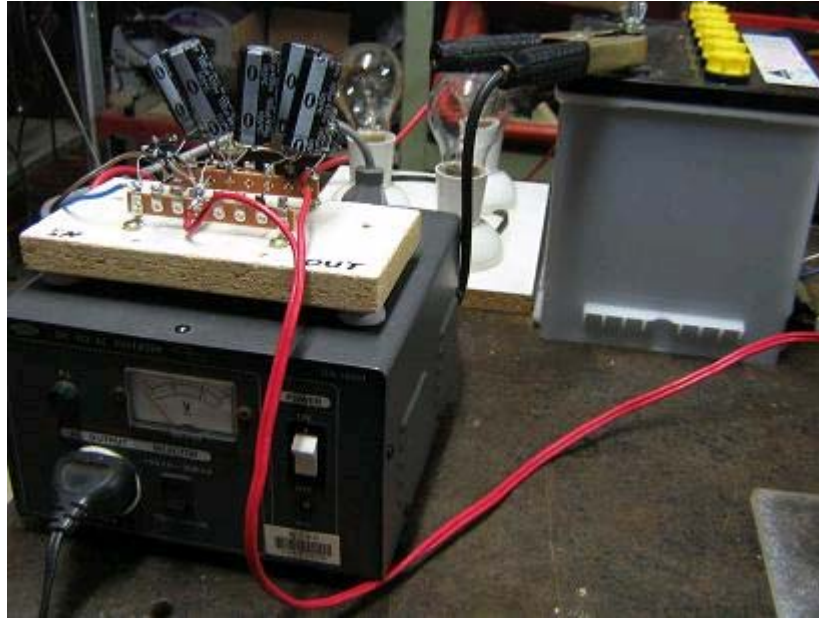
In the setup video, where I show the spark plug discharges, I also show at the end how I sprayed water into the cylinder via the spark plug hole. I then would pull the recoil to mix the water up in the cylinder. I then screwed in the spark plug and pulled the recoil again to mix and splash the water all over inside of the cylinder and spark plug.

In the demonstration video, you can see me adjusting the cylinder position prior to the discharges such that the piston is only a few degrees retarded or past TDC as the cylinder has started to travel down. With the inverter power supply OFF, there is no movement of the engine's flywheel whatsoever even though the normal HV ignition sparks are occurring inside via the spark plug.



This is because there is only water inside the cylinder and no traditional fuel such as petrol or anything else that is ignitable. Then, when the inverter power supply is turned ON, you can clearly see the flywheel kick over with force when the ignition coil is pulsed! It is clear that the plasma discharge from the power supply and discharge circuit are exploding the water inside the cylinder which is causing considerable pressure, via the expansion of water gas (fog), that pushes the piston down with considerable force.

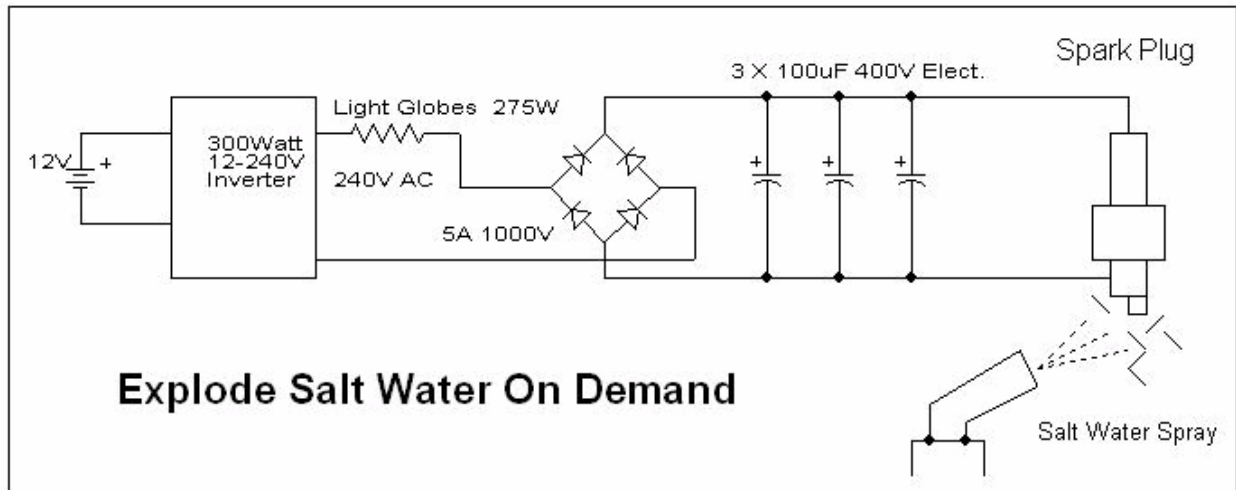




After only a few of these discharges the flywheel stops turning. That is because all of the water making contact with the spark plug inside has been exploded off. But I can then simply just pull the recoil again which will cause the water in the cylinder to splash up and onto the spark plug. Although, appropriately, I make no claims of the overall energy input, output and efficiency here, I have no doubt that the kinetic force generated by the exploding water within this engine, as demonstrated, will allow it to run using water only as the fuel once the appropriate ignition synchronisation and timing circuit has been built and put into place. Please see above for a circuit diagram of the power supply and discharge circuit used, as well as some pictures of the proof of concept setup.

All of my tests have shown that only a higher power supply voltage, and/or a higher capacitance discharge, will result in a more powerful water explosion as long as you can get enough water to come in contact with the larger and stranger arc plasma. There doesn't seem to be any real way that I have seen or tested where you can put a "passive network" into the discharge circuit and get a larger water explosion. Let alone power the discharge circuit from as low a voltage as 12 volts. A passive network will only waste and reduce the energy of the discharge and as a consequence, the water explosion will be smaller. Regards, Ossie

**Explode salt water on demand**



Reference to the latest video - <http://www.youtube.com/watch?v=LDU3U1gzLzc>

I used about 1 table spoon of cooking salt in a standard glass of water which should be 250ml. First of all I would like to explain the purpose of my work in this thread and how I have come to this very important latest discovery. It was Luc who showed us all a very interesting and simple circuit he discovered whilst attempting to work out how SR1 could be powering an engine with only water in his videos. In my previous posts I was able to reproduce the effect of exploding pure water with an electrical circuit and verify Luc's circuit and the results. I went on to show how the basic effect could be done with little input power and also at high repetition rates comparable to that of a running engine's ignition system.

With the help of my good friend Ben, it was discovered that exploding water with electrical energy was shown to have more energy output than what was required as electrical input according to the published Graneau paper as described in my previous posts. This paper explained that the released energy was from the conversion of the molecular bond energy in liquid water. This conversion occurred when liquid water came into contact with an electrical plasma and the liquid water was converted into a cool fog. No heat is generated in this conversion but the explosion does result in significant kinetic energy which was shown to be greater than the input electrical energy. This process and conversion did not disassociate or split the atomic bonds of the H<sub>2</sub>O molecule but did split the molecular bonds that hold water in a liquid state. The energy released, although significant, is far less than if the H<sub>2</sub>O molecule was split and then the hydrogen was to be ignited.

The above mentioned circuits were based on having a charged capacitor and blocking diode/diodes connected across a spark plug. Then a HV spark from an ignition coil is also placed across the spark plug. This ignition spark ionized the air and any water

in contact with the spark plug electrodes. This ionization allowed the energy in the capacitor to be discharged and cause a strong and bright electrical plasma discharge between the spark plug electrodes. The water on the electrodes, when in contact with the plasma, would explode as described in the Graneau paper. The diagrams or schematics, videos and pictures of these built and proven circuits can be found in my previous posts on this thread.

Now to my latest discovery. Whilst looking at the ionizing effect of the ignition spark and how it allowed the capacitor energy to piggy back itself and jump across the spark plug gap, I wondered if it was possible and if there was another way to do this that did not required a HV ignition spark to ionize the spark plug gap. After a number of tests and trials using a fouled or blocked with water spark plug gap, I soon realized that two things were going on. I could see that the water in the clogged spark plug gap would bubble slightly and that the water itself had significant resistance such that not enough current could be discharged from the capacitor. This was because there was not much ionization going on in the water itself. Also, on noticing the bubbles I realized that there was electrolysis or the splitting of the H<sub>2</sub>O molecule going on and that hydrogen was being released from the water that was clogging the gap. So it was then I realized that to get more current flowing in the water so as to be able to discharge the capacitor, I needed to lower the resistance of the water. I needed to get the ionization to occur in the water itself. So this was simple, I just needed to add an electrolyte to the water so this is what I did. I added SALT to the water.

As soon as I did this and sprayed it on the spark plug gap to block it, it almost immediately bubbled away and exploded indicating it was being split. After only a few tests without any HV ignition coil or ignition spark I got it to repeatedly explode!!!! The spark plug gap is a factor and the amount of salt in the water but it all works and they are just some variable factors to the performance! The explosions are unlike anything I have experienced before. They are far more powerful and loud and very HOT! They contained on demand generated hydrogen explosions!!!! Please see my videos above.

With this understanding I then was able to simplify the circuit to do this considerably. Please see the schematic below. You only need a capacitor of a few hundred uF and a bridge rectifier. You can use an inverter or the power from the wall to power it and that's all!

The power yielded is far greater than that of the cool fog explosions! These explosions are HOT hydrogen explosion and are very powerful! The salt water is being split on demand in the spark plug gap and the capacitor discharge plasma is igniting the hydrogen. It is now my opinion that if the videos of SR1. are real indeed then this is what is occurring inside his engine which will justify the power observed as my experiments

have shown that the previously described cool fog explosions could not account for the power shown in the firings of his engine. He has also verified that his engine does get hot which is not possible with the cool fog explosions of the previous circuits in this thread. It is likely that the water SR1. uses has salt or other minerals in it that he may not know of, particularly if it is from a bore. This can be enough to reduce the resistance of the water. I must also point out that it is also possible that capacitor70's motorcycle engine ran on this process as he did mention that he was using bore water to power it. Any acid or base can be used in the water to change it's PH level and lower it's resistance.

But now it becomes a requirement to be able to get allot of ionized or PH altered water to the spark plug so as to block it for this to work in an engine. Also, because the ignition circuit is not required, the cylinder's compression will be required to also condensate enough water in the spark plug gap to get it to explode. The operation will be vey similar, if not the same as a diesel engine. But many variables will have to be tested with the right combinations for a particular engine for this to work. Such as the spark plug gap, cylinder compression, type of spark plug, carburetor or water injection method, conductivity of the water and so on. But I believe that this process can be used to power an engine as it yields significantly more power than the previous cool fog water explosions that have been previously described.

There is room to be able to derive an ignition type circuit to create this same described effect and HHO explosion but use the ignition timing and even the HV spark to merely trigger the connection of the capacitor to the spark plug. This can also be done via another spark gap. But this will be explored and reported further in later experiments. Such a circuit will allow the effect and process to be used in a standard HV ignition timed engine. But it is important to understand and show that HV has NOTHING to do with the resulting explosion and output energy of this process as I have done above.

The results of my research and experiments on this topic to date indicate that the initial circuit that Luc posted causes a cool fog explosion of water as that described in the Graneau paper. As further described in the Graneau paper, the explosion may yield more energy output than what was required electrically to cause it. The experimental results shown indicated that in 5 out of 8 tests, the output energy exceeded the input energy to the factor of 100-160% of the input energy. My observations confirm this degree of energy conversion in my own experiments but also confirm that this small amount of energy increase CANNOT account for the energy being displayed in the firing of the engine in s1r9a9m9's videos. It is because of this understanding and the results of my research that I believe that your simple circuit cannot be used or developed as you have presented to be able to allow an engine to run on pure water.  
Regards,Ossie

## Aaron's anomalies

**Updated information**-The HV from the coil moves through the HV diode to the + of the low voltage source to ground back to itself. It seeks ground through the diode. That diode is open. When the HV is off, take a volt meter and put the negative on ground and + on the HV diode cathode/output. You will see that you can measure the low voltage side's voltage potential on the output of the diode because the diode is open. Many people think the diode is automatically closed and won't let the HV through but that isn't true. That is the whole point that diodes have reverse ratings...and if the diodes were automatically always shut, then the low voltage from the anode/input could never get through.

Also, the diode closing is not instantaneous...it is fast, yes, but not instantaneous...once the HV moves through the HV diode. It takes a bit of time for it to get the reverse current through it in order to slam shut.

The HV potential, which is the voltage gas (it is a gas composed of "particles" smaller than a hydrogen atom - smaller than an electron - very, very small fractional charges - Mendeleev's original periodic table of elements showed some of this) has MOMENTUM.

As it is moving, the HV diode slams shut and the voltage potential with its momentum slams against the diode. Compressing it more and more...now that re-compressed potential...which is expanded 90 degrees from the wire has to go somewhere...the only path to ground as of now is the gap on the plug. That un-condensed/expanded potential is what causes the primary effect of the cold plasma.

Then, when voltage on the cathode/output of the HV diode drops below the anode/input of the HV diode, then and only then can LV source move out of it and over the gap. The LV source is not the cause of the effect; it simply can boost the primary effect - which can be had all by itself with one small cap that is virtually empty when discharged to the primary.

Primary effect is that potential slamming against a diode.

Many think the simple HV spark jumping a gap is enough to ionize the gap to reduce the resistance enough to have the LW source follow it that is simply a fairytale.

Only the recompressed potential against the diode's abrupt shut off can cause the cold plasma ionization that is necessary to allow the LV source to follow. At this circuit's scale of operation, this is all necessary to make these effects.

This is a method of "splitting the positive" that Bedini has shown for years in the open but

nobody really got it. If I am wrong, I apologize and will correct all my explanations but until then, that's my story and I'm sticking to it until proven wrong but following the logic of all this, it is very consistent with what Tesla explained, it is consistent with other technologies that utilize this concept, etc...

Working of the [Gray Tube](#)

This will put what I'm saying into context with something that many people have studied but I am not sure anyone gets it. Many are convinced in all the free electron concepts in the Gray Tube, etc... McGratten mailed me a package about 7 years ago with that explanation but I always saw it happening in a different way.

The Gray Tube has a low voltage rod and high voltage rod. Low voltage rod has a diode on it that has the cathode/emitter pointed towards the gap. Low voltage source can be any low voltage source and Gray showed he used a 12v battery...the negative of that battery is connected to the negative of the HV capacitor at 3000-4000 volts and a few uf's. The + of the HV source goes to the HV rod.

(-)12vdc(+)diode->(gap)(+)3000vdc(-)

I have made the Gray tube analogy to the spark method and most have automatically thought that they look at 2 gaps and think they serve the same purpose. I'll show you why the 2 gaps have nothing to do with each other but why they are making the same effect. It is necessary to actually understand how the Gray tube works in order to see what the real analogies to the spark plug circuit are.

When the low voltage side is connected by commutator, whatever...the HV source immediately sees path to ground...it sees that the diode is open and has conductivity to the low voltage source which has conductivity to ground which is its own ground...it jumps and as soon as it moves through the diode for a small unit of time, the diode slams shut....only a small fraction of the HV potential made it through.

That HV potential from the cap slams against the diode and compresses against it very strongly forcing it to explode 90 degrees from the wire outwards...the only other path to ground it by going to the grids...through the electromagnet that pulses a magnet or other electromagnet to provide motive force on a motor to a + on another low voltage source and that LV source has a - that winds up being connected back to the HV -'s.

Take a balloon and push it flat against a wall. It compresses and the contents of the balloon wind up exploding 90 degrees perpendicular to the direction of original propagation.



Gray tube comparison- The gap in the Gray tube is simply a mechanism to get the HV to jump into a diode with a LV potential sitting on it so that it can move into it to have the diode slam shut to compress the potential against it.

The secondary discharge from ignition coil is a mechanism to get a HV to jump into a diode with a lv potential sitting on it so that it can move into it to have the diode slam shut to compress the potential against it.

The Grids on the Gray Tube are the secondary path for the expanded potential to move to ground. The ground on the spark plug is the secondary path for the expanded potential to move to ground.

Here is what this method is: You are giving the HV 2 paths to travel in order for it to move back to its own ground or relative ground.

1 path is a high resistance path

1 path is a low resistance path

The Gray tube high resistance path is out to grids back to ground. The water sparkplug circuit's high resistance paths are over spark gap back to ground. The Gray tube low resistance path is through the diode to LV side back to ground. The water sparkplug circuit's low resistance path is through the diode to LV side back to ground.

1. The HV will choose the low resistance path FIRST
2. Diode slams shut expanding that potential
3. Expanded potential (electro-radiant event) has only the high resistance path left back to ground.

So when it is explained that the HV spark jumps the gap ionizing it to reduce the resistance of it and have the LV source follow it...its incorrect.

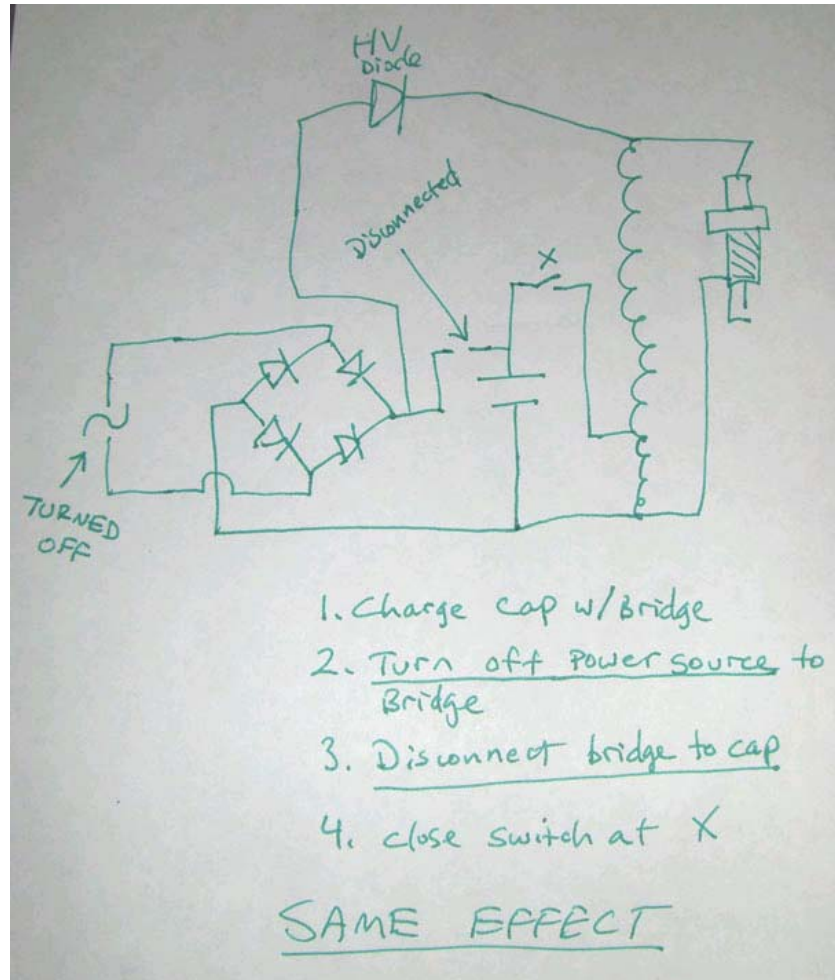
And seeing the analogy in comparison to the Gray tube, that popular explanation of how Luc's spark method works would be the same as claiming that this is how the Gray tube works:

The HV from the HV cap first jumps to the grids ionizing the air to reduce the resistance of it enough for the 12v battery potential to jump from the low voltage rod to the grids...all the while never needing the hv to jump the gap in order to slam against the diode.

We know the above is NOT how the Gray tube works but that is what people are

claiming when they say the Spark plug circuit works by the HV simply going to jump over the gap to ionize it for the lv source to follow. -End

The water plug is not what you may think. I can do this discharge constantly at higher frequency. It is STONE COLD. It is not what you think. I can also have the HV diodes coming off of the + of the BRIDGE when the bridge is disconnected from the cap AND with the inverter turned off and it gives me the same effect so there is no high temp high current arc across the gap. See below:



The HV output of coil seeks ground at the HV diode that is connected to common ground since that is paths of least resistance. It does find ground there since it is in contact with the low voltage potential. Diode slams off and slaps it hard and it has nowhere to go but to ground at plug. That is what is happening it is a very simple electro radiant event like what the Gray circuit produces but on a much smaller scale. Watch this video: [YouTube - Water Sparkplug | Isolated Capacitor](#) Notice Jetijs also said he turned off or disconnected his variac. I think they're doing same thing: [YouTube - Plasma Spark Plug Test on Engine and water](#)

Aaron addressing Luc- I understand that some things like this are just too simple and just pass by the wayside because of lack of belief that it can be that important...I am hoping you and anyone else working on this keeps pushing it like a mad dog on steroids. This method follow the rules of what needs to be in place to unleash an electroradiant event...serious fragmentation of a voltage potential. Spreading a certain amount of voltage potential over a larger cubic area of space.

Understanding the primary principles involved and they are in Peter's Free [Energy Secrets of Cold Electricity](#) book on the Gray Tube technology....they give the insights into everything that is necessary in order to enhance this entire effect, make it more powerful...not worried about efficiency because charging those caps take nothing at all to begin with. If you haven't read that book, I suggest reading it and if you have, then you can see that it describes perfectly what you are working with . My experiments today show me that capacitance is virtually irrelevant and it is all about the voltage. I went up in capacitance for the same voltage...no matter what, the effect didn't improve...and didn't necessarily diminish either going down in capacitance.

Did you say in a vid or posted somewhere you used as small as 2uf capacitor? Or someone else did? That proves the point. What about .1 .01 .001uf at the same voltage. It is all about tuning the gas pressures on the front and back for each system and it probably won't take long for most of it to be worked out. At such small capacitances, they can obviously charge up lightening fast and not only fast but can be charged a long time using watch batteries, AA batts, etc.

People want caps and strobes to play with. Don't buy them. Tell people to go to a grocery store that processes film. Say they're working on a science project and need a handful of the disposable cameras that already have the film ripped out. They have caps about 120uf and 120v or so plus the battery and charging circuit plus the strobe, etc... I went to one store about 7 years ago and I got about a dozen of them.

Personally, from the simplicity of this, I think the gas production requirements posted by the "gurus" of water gas production are bogus and are meant to distract people from the real secret. Meyer shows in the first patent and last patent about spark discharge and then spark at the plug. With the potential of this method, I can see how it is possible to run an engine on just water vapor, but an obvious enhancement to make it work really easily is that any engine running on it can easily produce a good amount of HHO gas from a booster to add to the moisture. This is where I think it needs to go.

Over all this time, nobody has created enough water gas to power an entire car. All the effort.... even with claims of hundreds of percent over Faraday, that isn't nearly enough. However, the amount people are currently making with everything they have tried

\*COULD\* just be enough already...if they were using Krupas plug...but that may be unnecessary anymore...cost me about \$2 for a NGK resistorless plug at Schucks. About \$1 worth of diodes. Cars already have ignition systems in the car with the coil and battery and caps are free in those cameras sometimes for the asking.

If the potential, no pun intended, of this whole thing is apparently as simple as it sounds...and from collective experience on all these things together, this is an irresistible offer that cannot be turned down.I hope this rapidly becomes one of the most popular experiments in the world in the "free energy" field. I have a feeling there are more things to surface really soon.

I felt for a long time that the Krupa plugs were the key to unlock it but I don't have the means to duplicate a Krupa plug...the one thing Krupa was quiet about is the "ignition". I chatted with him on yahoo groups off an on the last few years and anytime I asked about the ignition...he stops typing back. lol With his plug the anode is very large surface area like a mushroom head. If you take x mount of voltage potential and divide it by a certain surface area...there is more ability for it to fragment itself apart than with a small surface area. Anyway, this is an awesome breakthrough Luc and if there are any further updates that you want to get out to a lot of people, just post them here and a lot of people will see them.

#### Luc's response

Hi Arron and everyone, you are right! it is **not** about capacitance. I also noticed that the first time I discovered this simple circuit. In this video: [YouTube - Ganga Shakti - Water Power Test 2](#) I am using a 3.3uf capacitor with the input voltage to the bridge at about 150 volts from my isolation transformer connected to a variac to regular 120 vac from the grid. I am using a one side of a DPDT relay as the switch and the relay coil is triggered by a transistor which is pulsed by my signal generator. The video is not capable of showing the light coming from the spark and you cannot look strait at it with your eyes it is much like the Sun light, this you can see in the video. There is much UV light, just look at the plywood board that the plug is on, you can see the blue light reflect on the wood.

If anyone gets to this point stop! and get some heavy UV protection glasses since you will damage your eyes. To play with a disposable camera flash circuit is a great ideal and would be a easy way to also see results. Overunity forum user: calanan has a circuit that he posted using a strobe light that you can copy and post here if you wish. Feel free to copy anything you need as this belongs to the public. It sad about the Krupa plug not coming out! this is the World we have created by not taking responsibility. They would be difficult to make since you would need precision

equipment. As Aaron has said, do not be fooled by the simplicity of this circuit. Play safe and find all the uses for it.

### **Peter Lindermann's response**

Just so Aaron is not left out on a limb here I have personally witnessed many of Aaron's test set-ups, INCLUDING many of the temperature reading tests. I do not claim to understand the results, but I absolutely report that EVERY TIME we have pointed the IR temperature device at the spark, the reading goes DOWN BELOW AMBIENT! I was the first to question the validity of these tests. We aimed the IR thermometer at every other surface we could find, even other metal objects, like pliers and screw drivers nearby. No other objects changed temperature. Period! The spark plug never got hot. Aaron was pointing the laser right at the spark zone itself. THE SPARK TEMPERATURE was below the ambient temperature. That is the ONLY reasonable CONCLUSION I could draw from the evidence I witnessed.

I also saw no evidence of EMP effects from the spark to effect the IR thermometer. The spark was repeating approximately once a second due to an automatic relay driver circuit we built based on a 555 timer chip. IR temperature readings of other objects did not show anomalous behavior with the spark operating in the background. Theoretical posturing is meaningless. Ranting about the infallibility of Thermodynamics is equally un-useful. The behavior of the spark in this experimental set-up is most unexpected, and one of the most astonishing phenomena I have seen in years. -Peter

### **Spark temp by Aaron**

What the thermometer is seeing is the temperature of the spark while it is sparking..that is the only variable changing..once the spark is gone...the only thing the thermometer is measuring is the metal..., which is unchanged. It is POSSIBLE, the measurement of the thermometer is questionable as the spark is happening...of course possible but not likely.

However, what is undeniable is that what is happening is that when I measure the spark plug's metal BEFORE the sparking and take measurement...I then let it spark...even up to 10-15 minutes or more...no matter how long, I then turn off the circuit and then measure the metal AFTER all the sparking is stopped, the temp will either be the same or less compared to what it was before any sparking occurred. This second example rules out 100% of any possibility that there is "noise" at the thermometer and is also 100% rules out any possibility that the spark temperature itself is in question.

A fact that is gained from this experiment is this simply: I take a base temp reading before any sparking...let it spark for any length of time..turn off circuit...then take the spark plug temp reading afterwards and none of the sparking has increased the temperature of the metal.

Take any spark plug and spark it conventionally...take a before reading..let it spark...then test temp after...there will be an increase, I tried it...that increase does not exist with this type of spark that I have been able to observe no matter how long I let it spark. 100% of the time I have repeated this test over and over, I get the following results: zero increase in temp I can measure the temp of objects around me and those temperature show EXACTLY the same temp before and after the tests...that shows that the temperature reading of the thermometer is accurate.....consistent. Also, as I have said, a few times the temperature of the metal went DOWN a few times...all while testing when the circuit is totally off.



# PART 1

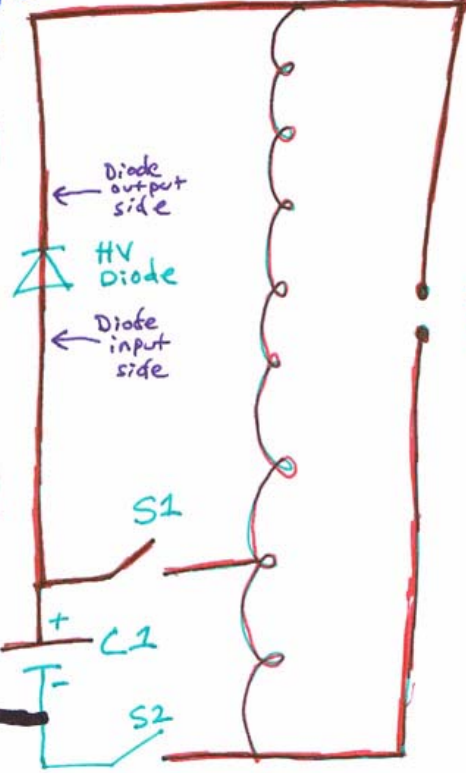
How the water sparkplug circuit works.

Thanks LUC!

This means LV - Low current pulse is NOT following the HV pulse!

Please note that whenever Diode output side voltage is higher than input side, it CLOSES SHUT!

PUT THIS LEAD ON ENTIRE circuit.



The **RED** traced line indicates where the LV potential of the cap is ALREADY at.



The cap is Dead when discharged to primary.

In this instance, the ENTIRE circuit is an extension of the DIODE that the capacitor makes up. Extension of the positive terminal.

www.EnergetizForum.com

If CAP is NOT connected to Coil & HV Diode input is connected to the (+) on the capacitor, the Low Voltage potential of what ever the cap is charged to will be at EVERY POINT ON THE CIRCUIT!

If NEG of C1 is connected, ~~the cap will go flat because it is short-circuited.~~

Modified circuit By boguslaw

# PART 1

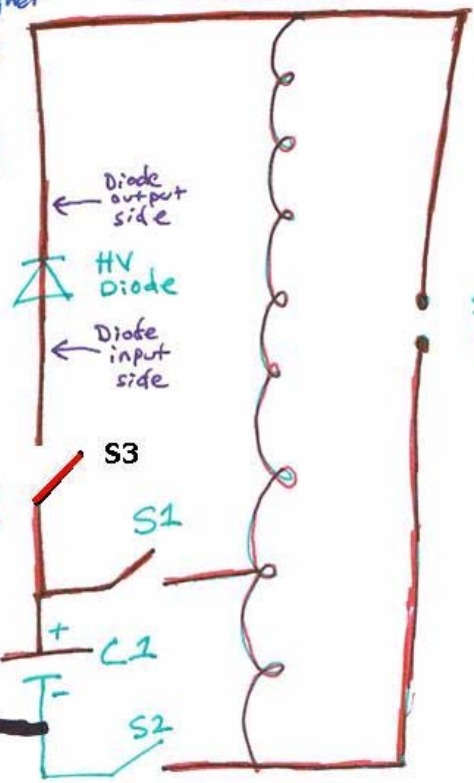
How the water sparkplug circuit works.

Thanks LUC!

This means LV - Low current pulse is NOT following the HV pulse!

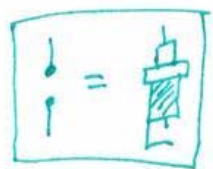
Please note that whenever Diode output side voltage is higher than input side, it CLOSES SHUT!

PUT THIS LEAD ON ENTIRE circuit.



The **RED** traced line indicates where the LV potential of the cap is ALREADY at.

Spark Gap



The cap is dead when discharged to primary.

In this instance, the ENTIRE circuit is an extension of the DIODE that the capacitor makes up. Extension of the positive terminal.

www.EnergetizForum.com

If CAP is NOT connected to Coil & HV Diode input is connected to the (+) on the capacitor, the Low Voltage potential of what ever the cap is charged to will be at EVERY POINT ON THE CIRCUIT!

If NEG of C1 is connected, ~~the cap will go flat because it is short-circuited.~~

This method is different from Luc's method and appears more powerful if it is able to run a car better (so far). However, Luc's method has shown some things that some people have a hard time believing in my explanation. I have a Goldstar OS 9020-A...not a Rolls Royce but gives me what I need. Has anyone scoped the cap to prove to themselves the activity of what the personality of the cap is while dumping to the ignition coil? How many times is something happening per pulse, etc. I am now using a 5A 150V variac...the output of variac...one lead to bridge and other lead to light bulb and light bulb to bridge...bulb is 110V 40W and limits current quite well. I can crank it up no problem.

[YouTube - Water Spark Plug | Radiant Energy | Temperature Drop](#)

Temperature drops on plug spark 7 degrees when running a couple seconds.

### **Peter Lindermann's replication**

I finished my Water Spark circuit today, and Aaron came over to my shop and filmed me doing a simple walk-through and demo. As soon as Aaron edits the footage, he'll put it up on YouTube and put a link to it in this forum. I charge a 47uf capacitor to about 140 volts DC using a variac, dropping resistor and full-wave-bridge rectifier. Then I completely disconnect the cap from the charging source and discharge it through the primary of the ignition coil. The Radio Shack relay is operated by a simple 555 timer circuit to vary the relay operation from 1 Cycle Per Second to about 15 CPS on a variable potentiometer. The cap has less than .6 Joules of energy in it per discharge. The HV diode is connected across the HV secondary of the ignition coil, between the High Voltage + and the Low Voltage + of the coil.

All schematics for the complete circuit and the 555 timer circuit are given so others can easily build a circuit that produces the effect reliably. I show three different effects. First, just the spark from the capacitor discharge. Then, the spark WITH the HV diode connected. And finally, the spark with the HV diode connected igniting water sprayed at the spark plug. I do not claim to understand WHY this happens. I built this circuit to STUDY the effect.

Thank you, GoToLuc for publishing this circuit, and thank you, Aaron, for helping me with my circuit and for filming my demonstration!! MHO, we need more circuit builders in this thread, and less theoretical guessing about what this is. Build a unit. Run the experiment. Live in the presence of the phenomena and think about what you are seeing. This is what will open up new insights. Nothing else!

My circuit choices were about simplification. I was just trying to see what the functions of each component were in their simplest form. The first circuit that Aaron showed me used 10 1N4007's soldered in series. That worked great, so it should work for you, too. I just pulled out the old microwave power supply diodes because I happen to have

them. The part number on the diode I used is the AMI2066.

Aaron's first model had a 160uf cap. Gotoluc had said that the cap size was irrelevant, so we tried a 1uf cap. That didn't work. It was just too small. So, we started to work our way back up. 47uf was the smallest cap we tried that worked well enough to demonstrate the effect convincingly. The Variac is optional. Gotoluc has already shown the cap being charged straight from the wall with a FWB rectifier. The Variac allows the option of charging the cap to different voltages for studying the effect.

Aaron's unit fried two relays at my shop when we were testing it, so I decided to wire up a relay SOCKET so I could change relays easily if that happened to mine. The capacitor is connected to the movable wipers in the relay. The input power from the Variac is connected to the NC (normally closed) contacts, and the primary of the ignition coil is connected to the NO (normally open) contacts.

As for the snubbers on the relay contacts, we got rid of them. We started out charging the caps with an inverter, like Gotoluc did. That's when we welded the relay shut using Aaron's larger capacitor. So, we put snubbers across the contacts to save the relay, and that's when we FRIED THE INVERTER!!! As it turned out, capacitive snubbers across the relay contacts just direct coupled the high frequency of the spark back to the MOSFETs in the inverter. Two fried inverters in 5 minutes was the cost of that lesson! So, now I run a Variac and NO SNUBBERS. After seeing Ossie Callanan's YouTube video showing the plasma spark triggered by a little Xenon flash strobe from a 9 volt battery, I had the idea to try this with an old Radio Shack Party Strobe that I had left over from another project.

When the primary of the ignition coil is placed in series with the discharge path of the Xenon bulb, sure enough, the spark plug fires. When the extra HV diode is connected, sure enough, the plasma spark appears. So, this showed me that the entire process CAN BE accomplished solid-state, and without relays. The effect from the strobe was not as strong as the effect from the relay system for the same capacitor discharge, because most of the power was dissipated across the Xenon bulb, and not in the primary of the ignition coil. So, I still think there is a better way to trigger this. The party strobe was simple and convenient, but not as efficient.

Then Aaron came over and we added his new, little parallel capacitor dump system across the spark plug. Sure enough, the method adds more energy to the spark discharge. In our experiments, we charged the secondary caps up from a variac connected to a microwave power supply step-up transformer and a HV rectifier bridge. We ran the initial spark gap from my newly created strobe circuit. The higher the voltage we put on the secondary caps, the louder the spark would get. So, like the

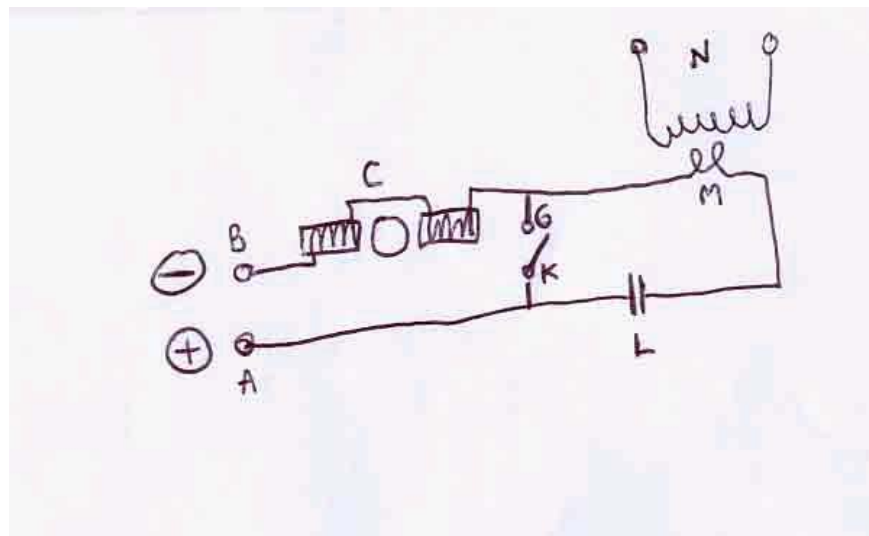


intrepid explorers of old, we kept raising the voltage until we got to about 1000 VDC, at which point, we fried my 12,000 volt diodes!!! Diagnostics proved that nothing else was hurt, and the replacement of the HV diodes returned the system to operation.

**There is still a lot to learn about this process, but spraying water on this enhanced plasma spark does make an impressive blast.**

### Allcanadian's analogy

The capacitor charging circuit of mine is the easiest way I know of to replace the inverter/rectifier section of Gotoluc's circuit. This is a Tesla circuit yes, but this does not have to turn into another tesla thread, we have a goal to pursue. The next phase I am working on is the plasma process itself which I have already started .The question I had to ask first is what is happening here? this is not a standard HV arc as Gotoluc and Qiman(Aaron) have shown in there videos, it is not produced by the rectified inverter current as Qiman has shown. A known amount of energy in a capacitor has completely changed the qualities of its discharge from anything we know . These qualities have also changed the extent of interaction with matter (water vapor), I think a common goal would be to determine the exact "cause" of why the qualities of the plasma discharge have changed and what circuit properties have instigated this change. This would seem to be the most logical course of action if one is to improve both the efficiency and magnitude of the effect. In any case I will be working in that direction in the next few weeks and post the results.



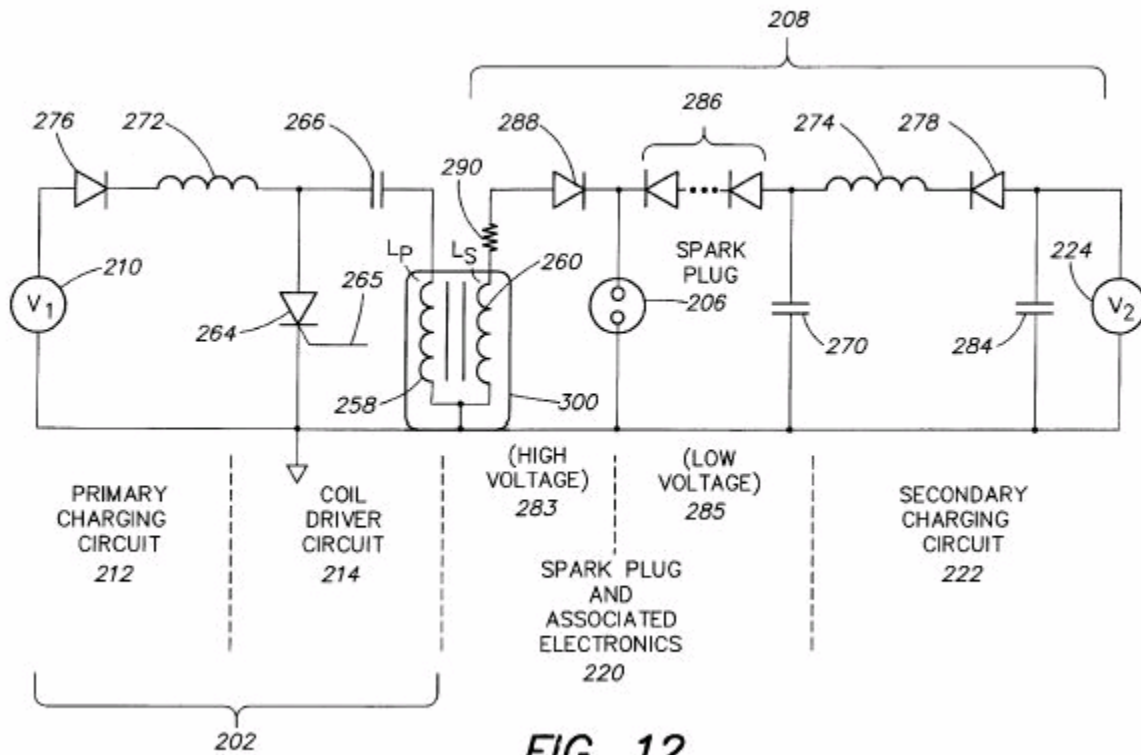
### Relation to US 6553981

Somebody in the yahoo groups forum just found this patent US 6553981 (get it at [www.pat2pdf.org](http://www.pat2pdf.org))

Well, it's **exactly** what we have here...It even describes the different spark plug



configurations and also different circuits versions (e.g. Circuits without the diodes and just with the coils for blocking, or with snubbers, etc, ...) See one example here (They just have a CDI System for ignition):



### Capacitance Vs. Voltage and Diode Test

From Luc- I think that there is a difference in the basic circuit and the booster cap circuit as the basic circuit does not make the spark plug hot and the effect goes bigger and bigger if you increase the voltage. The booster method is all about capacity.

As you know I have made a video to demonstrate this a while back. For those who missed it here it is: YouTube - Capacitance Vs. Voltage and Diode Test 1. If you want a bigger spark you raise the charge voltage of the capacitor and lower the capacitance (uf value) and save on energy.

I had a great spark using 2uf but charged to 1000vdc and you can get a better spark at 2000vdc with a .5uf cap and a most amazing spark at 3000vdc with a .22uf cap. I can go on but I think you get the picture. Notice that all the above use the same energy (1 Joule) but yet the spark effect gets better as the voltage rises.

At this time Groundloop is designing me a switch circuit that hopefully will handle high voltage at low amps. But maybe a circuit is not even required as once the voltage is high enough it can jump a small gap, so we could just use a mechanical rotor to do the switching!... right ... so this maybe the way to go since electronic components have voltage limits.

User: Uncle Fester who works with Krupa on the development of the Firestorm Plugs has confirmed what I have shared about the voltage.

[YouTube - Capacitance Vs. Voltage and Diode Test 1](#)

## **S1r9a9m9's circuit related**

Background on "s1r9a9m9" By Michael Couch -[For Pure Energy Systems News](#)

Faraday had discovered over a hundred years ago that an electric arc explodes louder through a water mist than through normal air. Others since have created water explosions with high voltage arcs. Since 1950 this phenomena has been used in sheet metal forming. In the process a female mold is sealed against a hollow chamber with a metal sheet on the bottom. The chamber is filled with water and then electrodes are fired with a high voltage charge. The force of the water reacting to the electric charge forms the sheet metal against the female die part.

Researchers for a mining institute discovered that the force the water exerts is 156% of the power input through the charge and that after multiple firings there was neither a pressure nor temperature increase in the water. This would make it appear that all of the energy input to the system is released as kinetic force as well as the 56% overunity energy.

Members of the [Waterfuel78 yahoo egroup](#) are now researching to see if this might be the source of the energy that is said to drive "s1r9a9m9"s 78 El Camino 300 miles on a gallon of water loss to evaporation from the vented water tank.

The inventor, known only by his yahoo screen name for security reasons, claims 30,000 miles have been put on the El Camino, which he is allegedly still driving on water alone. There are no pictures or video because of reported threats against other Alternative Free Energy Inventors, harassment and mysterious disappearances. ([Ref.](#))

The strong reaction of water to high energy high voltage arcs has been studied by major universities, mostly in the earlier part of the 20th Century. A professor Graneau of Oxford has recently also reported on the phenomena. Perhaps this new information will

broaden the scope of investigation into the s1r9a9m9 system, as it presents a peer-reviewed, scientifically accepted explanation as to how the system could work. This could add the s1r9a9m9 system to the on-demand hydrogen electrolysis and Joe Cell methods currently becoming extremely popular with experimenters seeking the "holy grail" of free energy for homes, industry and transportation.

Waterfuel78 yahoo egroup is dedicated to replicating the "s1r9a9m9" water car system in which 120V 6amp inverter current is piggybacked onto the normal auto high voltage that sparks the plugs in an internal combustion engine. Recently members of this group have uncovered a possible explanation as to how the system works. Prior to the new information about Electrohydraulic Metal Forming, many members had thought that the process involved flash steam. -End

By Peter Lindermann - GoToLuc circuit for creating a plasma spark and igniting water directly. Then there is the S1R "nail coil" for enhancing the spark of an ordinary ignition system so an engine can burn water as a fuel. While these two ideas SEEM to be related, I think they are TWO DIFFERENT approaches to the "water-as-fuel" goal, and I think the physics of the two situations is very different. GoToLuc circuit definitely WORKS to ignite water. -End

**Thanks to Rick from Energetic forum!** - When Gotoluc posted his s1r9a9m9 replication videos on YouTube, s1r9a9m9 watched the videos and made the following comment, "Nice set up. If you use a coil with two windings going through a main coil to boost the output spark up about 10 times what you have now, you will have a system almost like mine." Today, s1r9a9m9 posted a new message concerning this coil, along with a document explaining it further. He also said that he would be posting a video soon, showing how the coil is actually wound. Hopefully he will also share some additional details.

Here is a link to the transformer file:

[S1r9a9m9 transformer coil.rtf - Windows Live SkyDrive](#)

UPDATE - S1r9a9m9 has now also posted a photo showing the silver cup that appeared in his YouTube video of the 18 hp engine running on water, and also shows what was inside the cup. You will see this photo, and a close-up of the photo, plus a new pdf file in which s1r9a9m9 explains the step-up transformer coil that was in the silver cup. See them here:

[S1r step up transformer coil.jpg - Windows Live SkyDrive](#)

Note that s1r9a9m9 says the inverter isn't needed, and that in fact it can not even be used with the transformer setup. It looks like s1r is finally going to show us the missing pieces (or at least some of them), and that is great. I hope this information spurs some

additional experimentation and modification of the circuitry. I have been watching this thread with interest, and you have all been making excellent contributions to the effort. Keep up the great work!

Please see my last post in this thread (#73)

<http://www.energeticforum.com/renewable-energy/2242-water-sparkplug-3.html>

which I have edited to include links to a photo showing what was inside the mysterious silver cup that appeared in the YouTube videos showing s1r9a9m9 running the 18 hp engine on water. I have posted the photo, and a close-up of it, along with an rtf file and pdf file showing s1r's description of the device. This is key to getting an engine to run on water. It's the part Gotoluc didn't know about when he built his s1r9a9m9 replication, because it was hidden from view by the silver cup. Note also that s1r9a9m9 has promised to release a new video within the next few days that will make everything clearer, but there is already enough shown in the photo and documents to enable proper modification of the Gotoluc circuit to achieve a plasma spark capable of running an engine.

For those who are interested in the methods used by S1r in his El Camino setup, I do have a copy of the original concept drawing, and I have posted it here: [S1rRelay in bw.jpg - Windows Live SkyDrive](#) It is much easier to read in black & white than with the yellow background. That one shows the relay circuitry that s1r9a9m9 uses. The only reason why s1r uses an inverter is because the heavy duty appliance relays that he has been using require 110V AC power to operate. You will note that the relay circuit does not show s1r's step-up-transformer, which is really the most important part of the circuitry. Please see my post #83 in this thread for complete info about the step-up transformer.

Another member at waterfuel1978, XboxHacker, has created a diagram of s1r9a9m9's step-up transformer coil. I have added that to my Sky Drive files, and you can see it here:

[coil\\_setup.png - Windows Live SkyDrive](#) **[Update - while the referenced diagram is nearly correct, the leads as shown on coil #3 are in reverse of how S1r's are actually connected.]**

The core material is a galvanized 20 penny (4 inch) common nail. The MAIN winding is 5 turns of solid, bare, 14 gauge copper wire with 4" leads at the ends. The SECOND winding is 7 turns 16 gauge insulated multi-strand copper wire from a common lamp cord. The THIRD winding is 13 turns of the same wire used by the SECOND winding. Note that the THIRD winding is connected direct to the battery positive terminal and then to the SECOND winding. It is very important that the SECOND and THIRD windings must have current passing through them at all times, and thus the SECOND winding passes to ground through a current using device such as a fog light, fan, or whatever.

Regarding the transformer coil, s1r9a9m9 wrote today: "The [step-up transformer] coil must have a power supply at all times to energize the wire when the engine coil fires. This can be done by using a fog light or small 12 volt motor, or just something that will draw power through the wire through the coil. It may be possible to run the charging wire from the alternator to the battery through the coil and get the same results. It would not be drawing any power from the system because it would not be interrupted as it flows to the battery. I am still reading through about 6 thousand pages of work others have provided on this project. I got a head ache. I am still looking for a source for the relays. If I find any I will let everyone know where I got them. Someone said that you can't get high voltage from a 12 volt system just using the power of the battery and alt... but what is the voltage coming from the cars coil to the plugs on a car? the fire that has always bit me has been over 28000v @ 0.78 amps. or more. now all we are doing is adding another coil to boost the fire from the first coil to 100 times the stock output, but we are doing a little more we are slowing it down a little and adding some amps back to it as well. It ant rocket science but its not far from it. It seems simple to be able to work, but a lot of time has went into this, and its not finished yet.

The engine still surges. It needs a fuel supply system that feeds it as it needs it. there are other things that need to be done as well. I don't have all the answers but I am looking. I just got lucky on the Elcamino and the generator. Now it needs to be made to go on any car or truck, and cheap as posible. A 65amp alternator will charge three car batteries under a 30 percent load, and maintain the batteries at 90 percent charge. So how many math-tithions will say this can't be done. When the car is running how much powere does it use? Now starting it is another thing , about 150 amps is pulled from the battery when starting a car engine it is replaced with in the first 2 minutes of run time. this is the hardest time for the batterys life , heavy discharge then quick recharge. But how much power does the rest of the car use? Less than 8 percent of the batteries copasity. unless you turn on every thing then you are using 20 percent. Stuff on a car does not draw a constant load.

It varies with engine speed battery condition and other factors as well. Reference to GM specs on automotive electrical system uses and condition of components. That some tough reading. So we put this coil on each plug with a load pulled through it going to maybe some thing that is being used all the time any ways and we now have a system within a system that will draw 3 percent more from the power system than before. We are still not over taxing our battery and charging system. Now as for how to get the water fuel into the cylinders, I havent a clue as to how each vehicle will be done. Its not a constant flow to each piston. It takes a lot, but only when it needs it."

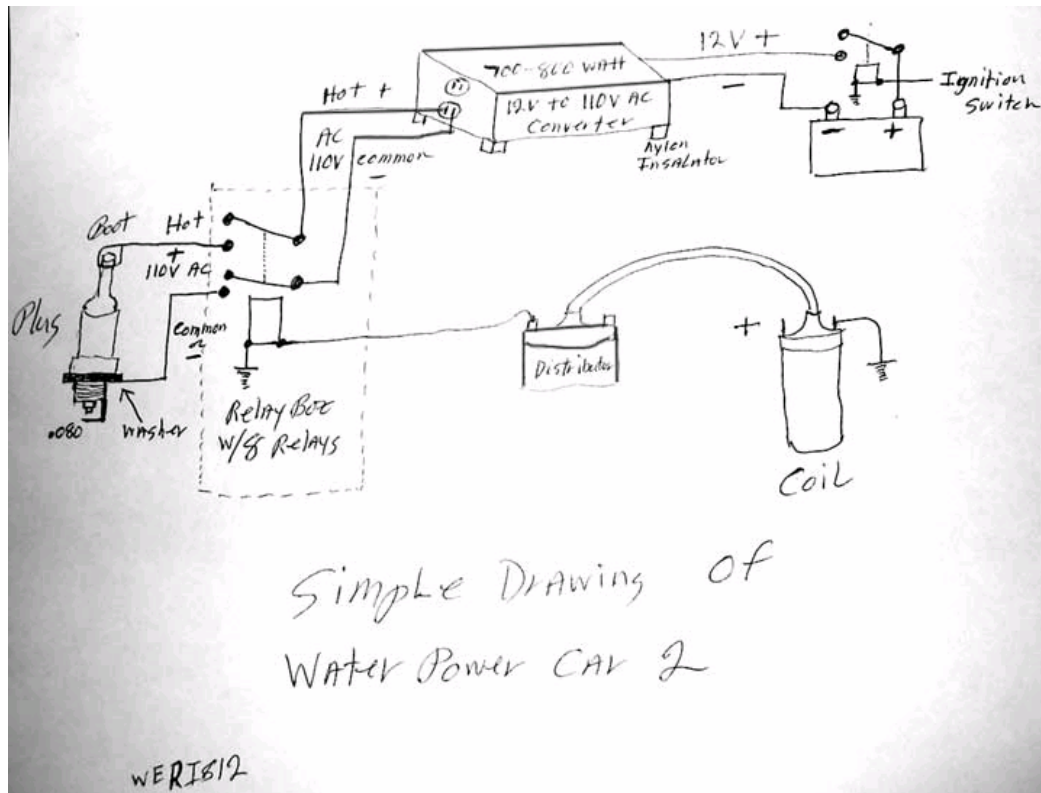
As to water introduction to the 18 hp Briggs and Stratton engine used for the YouTube

*videos, s1r says, "I ran the [water] hose into the breather port hole and not through the carb. None of the engine was modified except the breather filter removed. This is a stock engine running on water. The vacuum in the bottle was needed for this test, it had to draw only what it needed as it needed it, as you could see in video 2 when I gave it too much it shut down and water vapor came out the exhaust. A valve would have helped but my budget is gone, and its shoe string stretching time for parts. Well as I said I don't have all the answers but I do have a bunch of papers to go through and sort out a few more things. I am working on a video to show how to make the coil and what it does hooked up and working.- S1R."*

As you can see, s1r's working concept is very simple, and doesn't need any complicated circuitry to make it work. It would be fun to test this out on a 10kw home generator, such as a Honda EB11000, which uses a 20 hp, 2 cylinder, 615cc 4-stroke engine. The second cylinder would help smooth out the rotations. As s1r points out, the greatest challenge in adapting this to any engine is the water delivery method. We have seen his 18 hp engine run on straight, undispersed, unheated water. It does seem logical to conclude that pre-heated water, introduced as a fine mist, would be preferable. In either case, though, once the plasma spark disassociates and ignites a certain volume of the water, the remaining water vapor will be converted to high pressure steam, adding to the force of the power stroke.

It is interesting to note that in his 350 El Camino setup, s1r took the engine exhaust and ran it through a small tank with baffles to separate the water and recirculate it to his water tank pre-heated. This boosted the engine efficiency, and recirculating the water allowed him to achieve 300 mpg of water used. I hope that all will find this interesting and useful in the ongoing water fuel experiments. Best to all,Rick -End





As SR1 described it I think it's like this :

(1) The 110V DC is designed to create a strong magnetic field using the spark plug - this I think may be the "softening up" required to be done to the water molecule.

Interestingly on the Papp motor (which appears to be a water motor heavily disguised) , there are coils around the water feed pipe which I think may do the same "softening up". This should polarize or at least start to break down the water by putting it under magnetic stress.

But also, as the 110V DC is removed, the magnetic field collapses from the spark plug inside the engine cylinder, and this magnetic field collapse may produce a strong EMF ( voltage ) that may stress water vapor already in the engine cylinder and may provide a rapid step up in the stress on the water in the cylinder of the engine, at that moment.

Thinking about this a bit more, it appears this might be a two stage pulse stress on the water, \*possibly\* similar to the like the "pulse train" Meyer showed in his patent and shows on his drawings.

(2) The 110V DC is applied all the time to the spark plug - except at the exact moments the ignition coil is firing through the spark plug. SR1 cleverly uses the distributor to send a pulse to his relays to open and close them at the required times to achieve this.

The 8 relays in the box that SR1 uses appears to be nothing more than one relay per cylinder for his V8 engine. Each relay (one per cylinder) is connected to the distributor to disconnect the 110V DC from each plug just before the spark fires through the spark plug and then reconnects immediately afterward to re-establish the magnetic field through the spark plug again.

According to SR1, it seems that the 110V DC is \*not\* what burns the water, rather the ignition spark does - but his circuits appear to have the coil current up to 10 Amps, which at 50 KV is quite a boot.

Interesting point - If I understand GotoLucs circuit correctly, what SR1 is saying is slightly different to what GotoLuc is doing. GotoLuc uses a cap to pulse the spark plug, \*but\* doesn't have the 110V DC applied to the spark plug just before the spark fires and so no magnetic field is present before the capacitor fires. FYI - the text from the above URL: (<http://www.overunity.com/index.php/topic,3977.0.html> )

*Sr1 -The relay I used has two sets of coils and resisters in them. The same thing can be made by blocking the currents from the plug wire from going into the inverter and blocking the current from the inverter going to the plug wire, but leaving an open loop for both at the plug by grounding the inverter at the plug base and nowhere else on the vehicle.*

*The inverter has a constant current going to the plug except when the distributor sends fire through the plug wire. The inverter needs to be blocked only for the time it takes the plug to fire from the distributor, and the same for the distributor blocked from the inverter.*

*What goes on with the plug tip? well the inverter sends a current to the tip where there is water , the plug tip now has a magnetic field around it when the plug is fired from the distributor the field is increased and the extra amps causes a arc to form in the cylinder that expands the water as like a lighting bolt would. You can expand water but you cant compress it. Yes if to much water is in the cylinder it will lock the engine. Thats why the timing is set after TDC .*

*Gas will not burn, gas vapor will burn. A carburetor is designed to vaporize gas as it enters the intake manifold under a vacuum. Water will become partly vaporized and the rest is used to increase the compression in the cylinder. A fuel injector sprays a mist of fluid not vapor. It will partly vaporize in the cylinder before the plug fires. That is why cars with carbs and cars with injectors have different time even for the same size engines. There is a few degrees differences in them.*

*The relays I used did not have any numbers or names or any marking on them at all. The parts I found that would work cost \$600.00(US) for each cylinder, and I was ask not to give out that info because of what they were used for. Home Land Security Issue's. I don't ask , I don't tell. Plus how many people would spend their rent money for the parts. None of this can be patented and sold. I hope this will help others finish their projects."Thoughts and ideas welcome!*

### **Update from Rick**

Back in July, I posted my findings after doing a frame-by frame analysis of S1r's YouTube video of the 18 hp Briggs and Stratton engine running on water. [YouTube - Video 1](#)

My findings appear in post #39 of this thread. By clicking the Play/Pause button rapidly, I found that there are about 4 frames for each second of elapsed time in the video. It took several hours to go through the video in this manner, and to note the various connections that could be observed. The video is of rather poor quality, and my eyes are not as good as they used to be, but I studied each frame as best I could to ensure I was making accurate assessments. I must now say that, while my findings were mostly correct, the assertion in item #4 no longer holds true. Item #4 stated, " There are only three wires coming out of the tin: the large HV spark wire from the ignition coil, the white wire connected to the plug tip, and a brown wire. Hmmm, there should be 4 wires, according to Sir's hookup diagram, from his photo of the transformer.

So the hookup inside the tin container cannot be as S1r suggests. He suggests that one lead should come out of the tin and go to the battery positive terminal, while the 4th lead goes to engine ground through a constant current usage device such as a 60 watt lamp." In actuality, there really are 4 wires, and this was pointed out to me by Russ, an Internet friend in New York state. If you start Sir's Video 1, you will see that he starts to move the tin container with his hand at about 34 seconds elapsed time. At 38 seconds, the view pans up to reveal the thick wire leading to the tin from beneath the engine cowl. As he is moving the tin, the thick wire also moves. If you watch the movement in slow motion, by rapidly clicking the play/pause button, and do that several times between 38 and 40 seconds elapsed time, you will see that the thick wire (which we assume is the original high resistance spark plug cable) is really two insulated copper wires that have been wrapped in black electrical tape. I had noticed the lighter area of the cable before, and also noticed the dark strip which defines the separation of the two wires, but had thought that it was caused by fraying of the spark cable, and/or shadow effects. This would have been much more easily discerned in a higher quality video. Anyways, this factor changes the whole equation. Before, it seemed impossible that S1r's 3 coil transformer could have had battery power connected to it. One might still wonder where the power came from. It didn't come from the battery. The jumper

cable from the battery ground was clamped to the engine block, and the positive was used by the assistant to momentarily make contact with the starter motor. So where did the 12 volt DC power come from? The answer is that it came from the engine's alternator. S1r's 18 hp engine was made for a riding lawnmower application, and has a built-in dual circuit alternator. One circuit puts out 13 volts DC at 3 amperes, through a diode, to charge the battery. The other circuit puts out 14 volts AC to power the headlights. The circuitry as normally used in a riding mower application is shown here: [B&S Dual Circuit Alternator.pdf - Windows Live SkyDrive](#)

With this understood, we can see that it was indeed probable that one of the two wires in the tape wrapped pair was indeed the ignition wire, while the other was a DC connection to the alternator which powered S1r's transformer. So, was the AC side of the alternator used? I think that is probably the case. At 44 through 48 seconds elapsed time, S1r grasps the white wire that is attached to the spark plug, and the black wire (also attached there) is jostled about. If you watch closely, you can see that the other end of the black wire goes up under the engine. It is impossible to see where the wire terminates, but a logical guess would be that it is connected to the AC side of the alternator circuit through some diodes. The alternator stator is shown below, and of course it is possible that S1r may have modified the stator windings for a more powerful output.



Almost anything is possible. We still can't say with certainty exactly how all of S1r's circuitry was configured, but we can see that this new information leaves open some interesting possibilities. It definitely is a certainty that S1r's circuitry produced a delayed

and prolonged spark, and the new information confirms that voltage and amperage boosts were not only possible, but also quite probable. It really is unfortunate that people have had to dig so hard to come up with any useful information about S1r's circuitry. He could have easily made all of this clear to everyone months ago, when he first released the videos. He had promised to release full documentation in August, but that never happened. All such related questions at his waterfuel1978 forum go unanswered, and all messages and files are now screened by S1r before being admitted as posts. One can only wonder why S1r is so reluctant to share any useful information. Of course there are several possible reasons for that reluctance. I guess we should be happy that he at least ran the two videos for us to see, because that is what prompted Gotoluc to attempt a replication. And that, of course, is how our Water Sparkplug thread came about.

I hope that this new information proves to be interesting, and perhaps useful, to replicators.

Best regards to all- Rick .

### **Ossie's Sr1 Replication**

Please see my two new videos here: <http://www.youtube.com/m1a9r9s9>

I believe I have replicated a setup that does the same thing as s1r9a9m9 shows in his videos. I believe the setup configuration can allow a combustion engine to be run on water only instead of petrol/gas through the same fuel system on the engine.

In my videos, you will see I am now replicating an engine's ignition system using a signal generator switching a transistor driver that pulses an ignition coil at 20 Hz. This is powered separately by a small 12V battery although the sig gen is powered from mains power.

I am now using a 300W 12-240V DC to AC inverter to charge up a small capacitor that is effectively in parallel with the spark plug via some diodes. The system works very well, as you can see in the video and only uses 2-2.5 amps on the inverter's input.

With this new setup I was again surprised to find that even after running it continuously for 15 minutes, the spark plug is stone cold to the touch. The water explosions are cold and there is no heat that I can feel. I cannot explain this and my assumption that it was hot and warmed up the water was incorrect. It is a cold explosion or the explosion itself cools the plug tremendously through very fast evaporation of the water. So it would seem that because the explosions may actually cool the cylinder, external heating to assist the humidity and moisture content of the air may be required after all for cooler

climates. Also, there is no smell whatsoever and only cold moisture around the spark plug. Regards, Ossie

Technical discussion - [s1r9a9m9 water fuel circuit](#)

<http://tech.groups.yahoo.com/group/WaterFuel1978/> - Yahoo! Groups

Diagrams -- [http://waterfuel.t35.com/water\\_explosion.html](http://waterfuel.t35.com/water_explosion.html)

### **WATCH WORKING s1r9a9m9 REPLICATION**

<http://www.youtube.com/watch?v=nnUv6M0N6z4>

Details- <http://www.overunity.com/index.php/topic,3977.new.html>

### **Sr1 Video related**

[Internal Video of a running engine](#)

2 videos from the Youtube user s1r9a9m9, who got his motor already to run on water and this special spark plug system: <http://www.youtube.com/user/s1r9a9m9>

[S1r test #1](#)

[YouTube - Working s1r9a9's Replication](#)

### **Kramer's Watercar Project Technology Synopsis Watercar Technology**

**There are a number of ways to operate an internal combustion engine using only water as fuel.** The traditional approach is to separate water into hydrogen and oxygen gas using **electrolysis**, however, this process is quite inefficient. To improve the efficiency of electrolysis, various inventors have sought to stimulate water at its **resonance frequencies** and thus get more gas production with less energy inputs. This approach works, however, problems have always been in making enough gas on demand as needed by an engine, noting that storing H<sub>2</sub> and O<sub>2</sub> is a highly explosive alternative that should be avoided.

There is also another group of inventors who make mono-atomic H and O gas, which is very nice as you get larger gas volumes and a more reactive fuel so you use less, but it still must be made on-demand...

Others have tried **chemical reactions with water** to produce hydrogen gas. The typical approach is with **sodium hydroxide (NaOH) and aluminium** which will produce enough gas so long as you have empty aluminium cans to keep the car running. **Sodium hydride (NaH)** is even more reactive, but highly dangerous to handle unless properly



encapsulated as a company called **Powerballs, Inc.** is proposing. There are many other chemical reduction reactions that can be used, however, the metals become more costly and re-refining or reprocessing the waste water will be a messy problem. Not such a good ecological approach.

A recently revised approach is to use a **plasma arc to dissociate water**. US Magnegas Inc. does this in reactors that recycle carbon-based liquid wastes like sewage, used cooking or automotive oils, soaps and cleaning solvents, and so on, to produce a **stable and compressible "Magnegas"** which has been very successfully combusted in ordinary vehicles and can be used for cooking, metal cutting or in various power generating technologies. This is a worthy approach for liquid waste disposal and generation of a limited amount of usable gas for running vehicles.

The latest water car technique utilizes a little known **"exploding water" technique**. This is based on a **high capacitance discharge in water or water vapour which causes a "cold fog jet" pressure pulse together with light flash and sonic concussion**. This is basically a **lightning and thunder reaction** and is the approach that shows the most promise when applied to an internal combustion engine. This is the recommended approach as it **requires less energy and produces a powerful result without consuming the water**, which is simply recycled repeatedly in order to achieve 300 mpg or more.

From: "chris\_0595" <chris\_0595@...> Nov 28, 2005 S1r9a9m9's two power sources - Not new!

When reviewing the US patent list, I noted number of patents for improving ICE ignition involving TWO power sources. In most cases ordinary HV ignition coil is used together with a lower voltage/high current DC-DC generator to enhance the ignition/combustion. Here are few interesting patents, but might need to be modified for exploding water:

- Patent 4,269,161 uses stack of 288 (yes 288) diodes per cylinder. This is to increase the PIV to 24KV and current discharge of 600A. Different number of capacitor banks is also used, in some cases giving up to 20,000J of energy. 200V DC-DC converter is used together with standard ignition coil.
- Patent 4,345,575 uses HV ignition coil together with a 2-3KV power supply that will not initiate a spark but powerful enough to sustain the arc for a high current value for predetermined length of time. Motorola MR250-5 rectifier diodes are used, anyone got the spec sheet for these diodes?
- Patent 4,122,816 describes a Plasma Igniter and was made in a contract work for NASA. It uses a ordinary ignition coil together with 2KV converter that charges a 100uF capacitor. A SCR is also used for control (said to be a standard resonance charging circuit. Object of this invention is to ignite the fuel with plasma which extends much deeper into the chamber (cylinder) than can be obtained with spark ignition.
- Patent 4,136,301 uses ignition coil and a DC-DC converter capable of 2,800V. Different jet sizes for the carb are discussed as well as plug gap spacing.
- Patent 4,301,782 uses ignition coil and DC pulse generator that allows duration of spark to be controlled.

These patents are aimed at improving the ignition/combustion in gasoline ICE. However, since number of individuals have had difficulties replicating S1r's water car project, above patents can possible give guidance to different set-ups for exploding water using ignition coil (HEI) and inverter. As for myself, I've been unable to have my bench-setup work using standard HEI coil distributor, Autolite 25 plugs, and Vector inverter, connected in same fashion as S1r described. What happens is the HV simply gets suppressed, giving no spark/arc. I've tried different diode/coil configuration but without success so far. However, when running the HEI without inverter/coils/diodes the spark is normal on all 8 plugs.

[Source](#)

## A. K. Oppenheim Plasma Ignition



The plasma-jet ignition utilizes an ionized plasma which is injected into the combustion chamber. Initially, the ion cloud penetrates into the chamber and expands. As it expands very little combustion occurs. When the ion cloud has expanded sufficiently, combustion proceeds rapidly from many ignition points rather than from a single spark because the plasma comprises hot, highly charged particles. In this manner, almost the entire charge is ignited and burns smoothly.

There is no flame front which propagates from a single spark. Thus, the plasma-jet ignition permits the use of lower octane fuels and much leaner mixtures of fuel and air than internal combustion engines using conventional spark plug ignition. However, the plasma-jet ignition is not yet commercially feasible for operating an engine.

In the same article of the September 1979 issue of Popular Science, another recent development is described which is called the controlled-combustion system. Combustion is initiated in this system by simultaneous fuel injection and spark ignition.

By injecting the fuel into the vicinity of the spark, the air within the combustion chamber is caused to swirl about the chamber. The products of combustion, the flame front, and the combustible mixture are swept downstream and away from the spark by the air swirl. In this manner, cylinder pressure builds at a controlled rate.

The spark is discontinued, but fuel injection continues to feed the swirling flame front until the maximum power is reached. The fuel injection is then discontinued and the intensity of the flame front fades, but combustion continues until all of the fuel is consumed. This system has no octane requirements and operates efficiently and cleanly on a leaner fuel/air mixture than conventional spark plug ignited internal combustion engines require."

That reference was from this patent..this patent is NOT about the one in the magazine but a patent that references it:

[Amplified radiation igniter system and method for igniting fuel in an internal combustion engine - Patent 4314530](#) and [Pre-combustion system for internal combustion engines - Patent 4319552](#)

References Oppenheim:

[Plasma arc ignition system - Patent 5568801](#)

Seems like a lot of plasma references to this person.

["a. k. Oppenheim" plasma - Google Search](#)

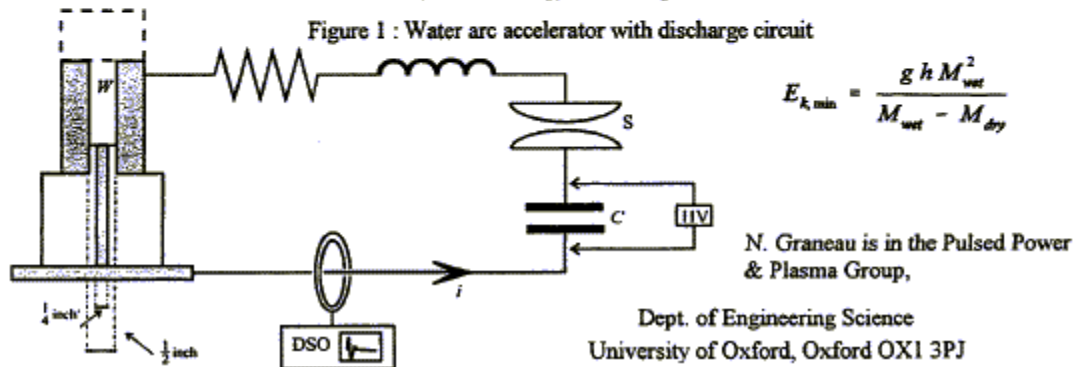
### **Archived related faculty research taken from the waterfuel free web site**

#### **History of Water Arc Explosions**

The unusual strength of explosions caused by a pulsed current flowing through water plasma was first noticed in 1907 by Trowbridge (1) in his early high voltage laboratory at Harvard University. When he passed an arc through a spray of water, the resulting explosion was louder than in ordinary laboratory air. During the second world war, Frungel measured the strength of water arc explosions and published his results in 1948 (2). He concluded that they were not caused by heat and steam and freely admitted that he was unable to explain the phenomenon. Soon after Frungel's publications, water arc explosions found applications in electrohydraulic metal forming (3) and underwater pulse echo sounding (4). In 1969, the US Bureau of Mines issued a long report on their investigation into using water arc explosions for rock fragmentation (5).

In one experiment the investigators at the Twin City Mining Research Center noticed that the energy output was apparently 156% of the input. Not until the mid-1980s was the scientific basis of the puzzling explosions more extensively researched. At MIT (6,7). It was shown that the discharge of 3.6 kJ of stored capacitor energy would create pressures in excess of 20,000 atm. In 7 ml of water, 3.6 gm of water was ejected from an accelerator barrel at a velocity of the order of 1000m/s, sufficient to penetrate a ¼" thick aluminum plate (8).

The jet can be viewed and its tip speed measured by high speed photography. It is found that the jet has a constant column width which is equal to the accelerator barrel diameter. This immediately proves that the fog is cold and unlike steam, does not expand laterally. The tip of the column leaves the accelerator with speeds between 100-1000 m/s depending on the energy of the electrical discharge. Without precise knowledge of the density of the fog jet, it is not possible to deduce the kinetic energy of the fog jet simply by the photographic method. However, the momentum and energy of the jet can be measured by recording the momentum gain of a balsa / metal secondary projectile which is hit by the water jet in much the same way that bullet speeds were measured with a ballistic pendulum in the 18th century. The projectile consists of a balsa block, contained on all but the bottom surface by a brass cap, the entire "dry" object weighing about 36 gm. The jet penetrates the balsa wood and the mass of the water droplets is added to the projectile which then flies upward to a height of around a metre. The height gained ( $h$ ) can be easily recorded on video, which allows the initial momentum of the "wet" projectile to be determined. The difference between the wet and dry projectile mass yields the mass of the high velocity fog ( $M_{wet} - M_{dry}$ ) and thus allows us to calculate a minimum estimate of the momentum and energy of the jet. If  $g$  is the acceleration due to gravity, then the minimum estimate of the fog kinetic energy can be expressed as



While not in all, but in many discharges under differing experimental conditions of varying capacitance, initial voltage and water volume, the kinetic energy of the water jet was larger than the electrical energy that had been stored in the capacitor bank.

The **data** shown in figure 2 **reveals both the over unity performance** of the water accelerator and as well further evidence that the amount of energy released depends on the energy stored in the hydrogen bonds. It can be seen that **the temperature of the water which is directly related to the extra vibration energy in the hydrogen bonding network has a direct effect on the energy of the fog jet.**

Electrodynamic Explosions in Liquids, P. Graneau, P.N. Graneau, Appl. Phys. Lett. 46(5), 468-70, (1985).

Citations from the book of Moray King, **Tapping the zero point energy**, ISBN 1-931882-00-2.

**Page 82:** Ion motions or oscillations can be induced in electrolytic solutions as well. Graneau (38), in experimenting with explosive discharges in salt water, observed a threshold phenomenon related to the sharpness of the pulse excitation. Unless the pulse rise time was sufficiently large, an ordinary discharge would occur in the water and yield no motion. But with the same total pulse energy, when the rise time exceeded a certain threshold, the water would jerk upward explosively.

Clearly there is ion motion in this event. Perhaps a similar phenomena happens for those inventors who claim energy anomalies when pulse charging an electrolytic battery.

Puharich (39) claimed observing an energy anomaly by electrolysis of water where the excitation signal matched the resonant frequencies of the water molecule's bonds. This would also induce ion oscillations. If abrupt electrolytic ion motion produces a self-organizing interaction with the ZPE (or an orthorotation of its flux), it could explain the energy anomalies in systems where electrolytic ions are excited.

# **Page 98, Reference n 38**: An experiment is reported where electric arc currents produce explosions through salt water by electrodynamic forces. The explosive phenomena can be explained with the aid of longitudinal Ampere forces, but not with traditional Lorentz forces.

A threshold phenomenon is observed below which an ordinary discharge produces no motion in the liquid, **but above which a violent motion is induced**. (During the explosion, there is obviously ion-acoustic activity. This experimental arrangement may make a convenient transmitter for generating a macroscopic vacuum polarization (reference 8). A similar phenomenon may occur in those 'free energy' devices that pulse charge a battery's electrolyte. It may be more convenient for experimental purposes to induce ion-acoustic activity in an electrolytic solution than in a gas discharge plasma tube).

**Electrically Induced Explosions in Water by Gary Johnson**, Kansas State University.

**Abstracts** : ... A 2 mf capacitor was charged to voltages in the 1-10 kV range and discharged into a water column through a 38 mH inductor. At voltages up to about 6 kV, the water acted as a relatively high resistance and the circuit decayed as an over damped RLC circuit.

Resistance decreased with time. **When the resistance dropped below about 10 W, the water would explode** if the capacitor still had sufficient energy. **The loudness was distinctly greater than an equivalent amount of gunpowder.**

**Conclusions**: Electrically induced **explosions in water are relatively easy to produce** with a 2 uF capacitor charged to 10 kV. Expanding steam does not seem to be the main cause. Similar explosions are obtained with significantly different peak currents, which raises questions about the longitudinal Ampere forces being the primary cause. **It is therefore conceivable that we are tapping a new energy source.**

**From POWERLABS**: <http://www.powerlabs.org/waterarc.html>

## **Water Atomization by High Magnitude Electrical Impulses: A study.**

After several discharges the **pressure inside the box remained at 1ATM**. If the water was being vaporized by the discharge a phase change expansion would be expected and hence some pressure increase should be observed. Similarly, if the water was being split up into hydrogen and oxygen by electrolysis, an even higher pressure increase should be observed. More importantly, there was **no "fogging" inside the box**, further refuting any steam condensation claims, and the temperature change was consistent with my theory that the **water is not being vaporized**. If only a small amount of Hydrogen and Oxygen was being produced, it could diffuse into the liquid and remain there in gaseous phase. In fact, analyzing the light emitted by a silent arc inside the atmosphere of the box with a chromatograph after 20 discharges showed **the characteristic red line of hydrogen**, as well as all usual signature produced by nitrogen and oxygen in air.

### **But how can a shock wave be produced when the net pressure change is zero?**

Conventionally, shock waves are produced by explosives, such as nitroglycerine, which upon being struck or heated above 280C, decomposes to give 10 000 times its original volume in gas. This tremendous expansion gives rise to a shock wave traveling at 4500 M/sec[3]. The shock wave can be thought off as a sound wave, or, more accurately, as a pulse traveling through a medium of some sort. In an explosive this pulse is provided by the initial expansion, which pushed air molecules outwards at a very fast rate. Because gases are produced, a net pressure increase is observed.



**In the water atomization experiment, the shock wave implies that there must be an initial pulse, or expansion, but the zero pressure increase tells us that this change is non permanent and very quick.** We can therefore rule out vaporization, and electrolysis, as both would result in a permanent pressure change.

**See also:**

- <http://www.amasci.com/amateur/capexpt.html>



- <http://www.rialian.com/rnboyd/powergain.htm>
- <http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd>

Also :

Punching and metal engineering

Water-arc explosions have long been used in metal engineering to create high pressures in 'electrohydraulic forming'.

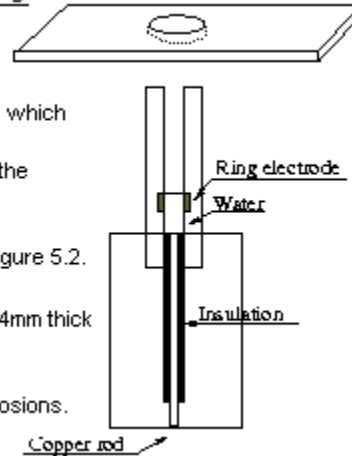
An arc is discharged in water, creating a high pressure which then shapes a metal sheet.

The development has been based on trial and error, as the nature of the explosions has not been well understood.

The water explosions can also be used for punching, Figure 5.2.

In one of Graneau's water-arc experiments a 3.8g water column punched a clean 13mm hole in a 6.4mm thick aluminium plate, after having travelled 10cm in the air. Impact velocity was around 1000m/s.

Figure 5.2: Punching of metal with water-arc explosions.



<http://www.df.lth.se/~snorkelf/Longitudinal/hode6.htm>

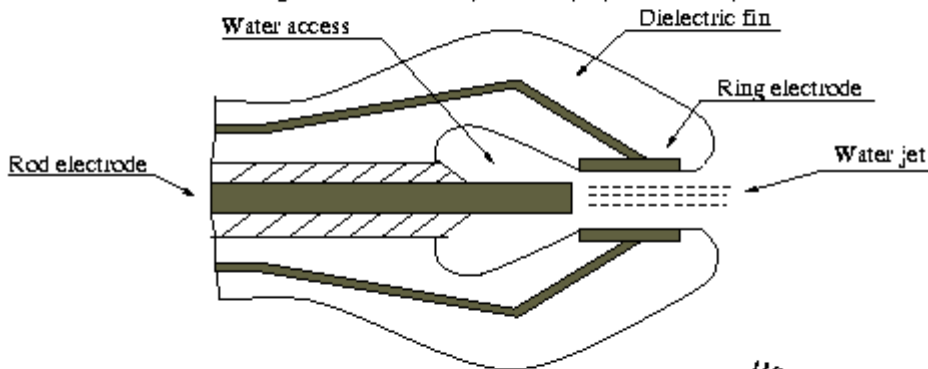
Water-arc jet propulsion

<http://www.df.lth.se/~snorkelf/Longitudinal/hode6.htm>

Based on his own experiments with water explosions and the liquid mercury fountain, Graneau proposed the following device for water-arc jet propulsion [23], Figure 5.4.

Water is expelled from the rod by the electrodynamic repulsion (explosions), and is continuously supplied from behind the rod. The device has the advantage over Magnetohydrodynamic (MHD) propulsion that it does not need any superconducting magnets. MHD propulsion is based on the Lorentz forces acting on an electrolytic current in a strong magnetic field, the immense magnets needed being its main drawback.

Figure 5.4: Water-arc jet for the propulsion of ships and submarines.



What about the efficiency of the jet? The thrust force is given by:  $F = \frac{\mu_0}{4\pi} k I^2$

where  $\mu_0$  is the magnetic permeability of vacuum,  $I$  the current and  $k$  a performance index.

For the water-arc  $k$  is about 1000 or more. As a comparison the railgun has  $k \approx 7$ . Currents of the order of kA can produce a useful thrust. According to Graneau, water heating will not be a serious problem, whereas the ionization may cause losses.

With a continuous flow the jet may be quite silent.

The electrodynamic explosion motor

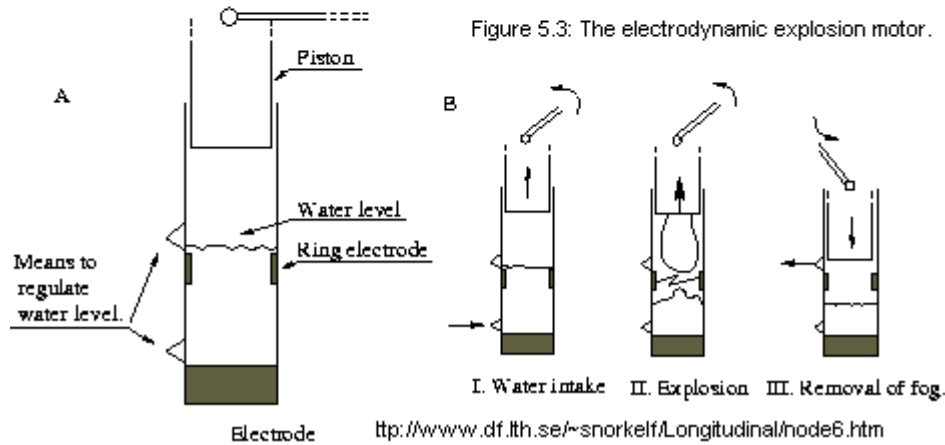
The electrodynamic explosions could be used to drive an explosion motor, Figure 5.3.

An arc discharge causes a directed explosion in the water. The impact of the water onto the piston creates a torque on a crankshaft. The piston need not even fit in tight with the cylinder, as it is the impact of the water, and not gas pressure, that causes the force. This motor would have several advantages:

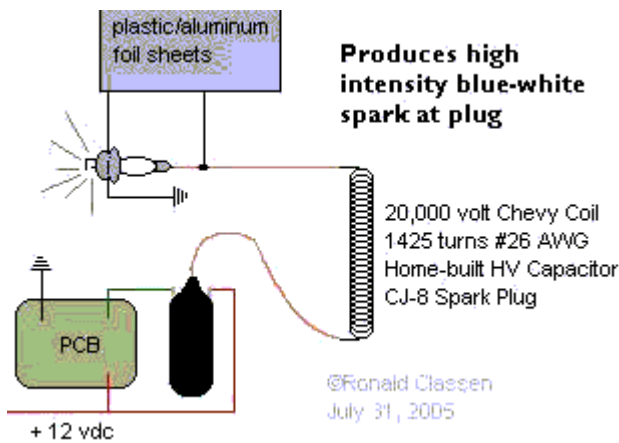
- The force on the piston can act when it exerts the maximum torque on the crankshaft.
- The force is directed, as it is the impact of the expelled water and not thermal pressure that produces the forces.
- High pressures, 20'000-40'000 atm, can be created even in a small motor. This could give a high power/weight ratio.

One disadvantage would be:

- Some energy is lost as joule heating in the leads, and due to some electrolytic conduction. Clearly, energy is also lost due to the ionization.



From Ronald CLASSEN :

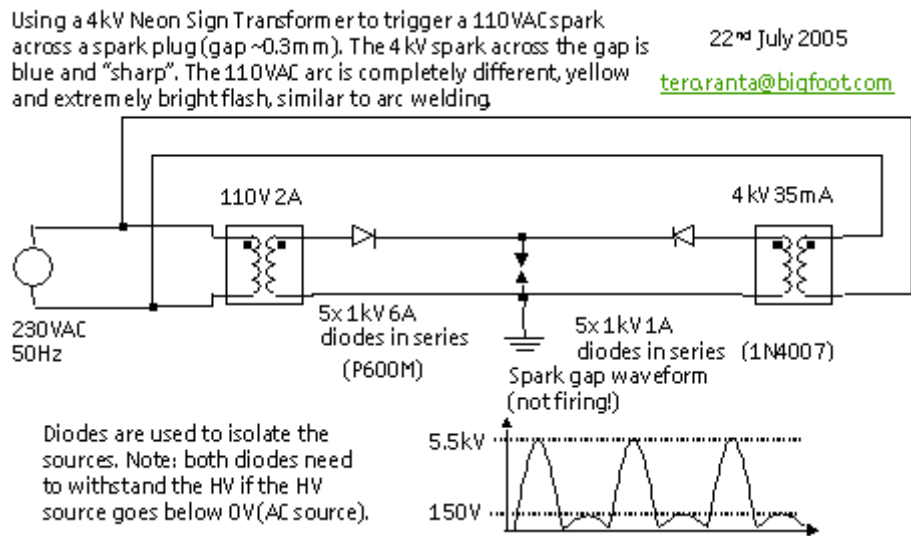


Before (normal spark) = >> >> = after modification (plasma spark)



**From Tero @ egas forum:** Many different diagrams/solution proposed to create THE plasma spark that can explode water:

One of them:



**Snapshots from Tero 'water1' video :**

steps 1 (arc ignition)----- 2 (explosion)



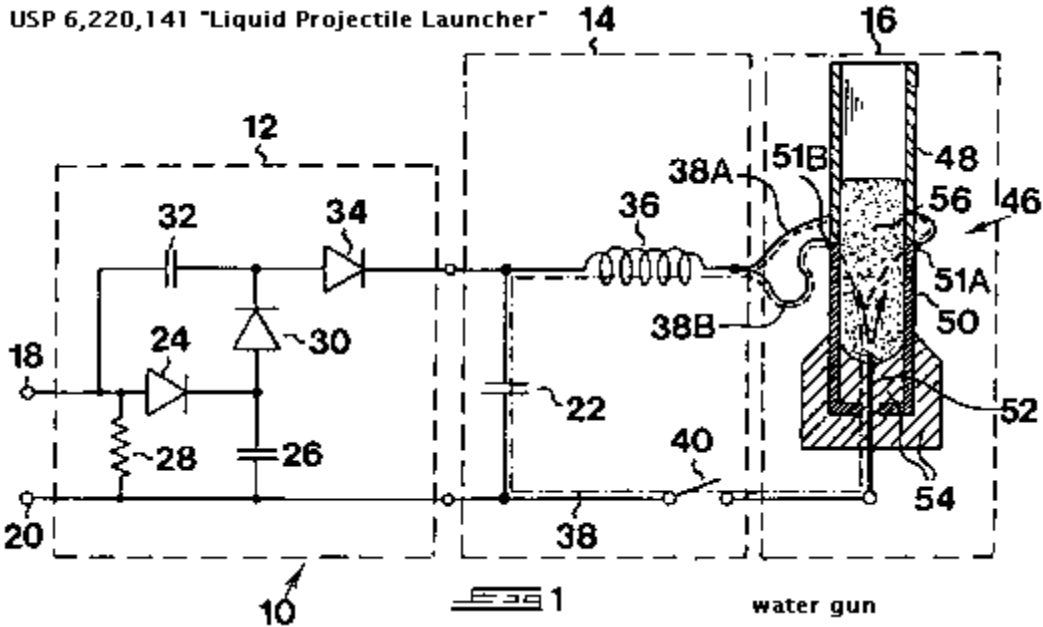
3 (very bright flash)----- 4 (water splash)



**Water Gun Theory** [http://members.tm.net/lapointe/Water\\_Gun\\_Theory.html](http://members.tm.net/lapointe/Water_Gun_Theory.html)

I recently read an interesting patent which describes a capacitor driven water droplet launcher. **U.S. Patent 6,220,141 "Liquid Projectile Launcher"** claims that this device can deliver a water droplet at high speed (1000 m/s, ~Mach 3) at "short to medium range". The authors also suggest various additives to the water to produce desired effects on the target. These include humanitarian substances, such as vaccines or antibiotics, as well as more nefarious materials such as acids, bases or solvents to generate a pain response (having at one time or another spilled all of these things into open cuts, I can testify that they do indeed sting), capsaicin (hot pepper oil) for more serious pain, or histamine (do not pass go, do not collect \$200, go directly to anaphylactic shock). For more ideas along these lines, see my chemophobia <http://members.tm.net/lapointe/ChemTox.htm> page.

The principle claim of this patent is that the use of multiple conductors (or better, a coaxial arrangement) to feed power to the drive portion of the barrel results in a more spatially coherent liquid projectile with a longer effective range. I have a couple of problems with this patent. First, the range specification was very unclear. It seems unlikely to me that a water droplet would be aerodynamic enough to maintain coherence over a distance of more than an inch or two. I wanted to test this. Second, the design presented in the patent is clearly a single shot device. The capacitor is charged from a built in voltage multiplier powered by mains supply. The described trigger is a simple switch with two metal strips which are designed to fuse together on operation. Although the patent calls for the inclusion of a sliding device to pry apart the contacts after use, a second shot would require plugging it in to recharge the capacitor and refilling the breech with liquid using a syringe type dispenser.



This is the schematic of the water gun, taken directly from the patent. The section within the dashed box twelve is a voltage multiplier for charging the main capacitor, 22, from 220 VAC mains (the patent is assigned to a British company, Injectiles Ltd.). The gun itself is depicted within the dashed box 16, with the muzzle pointed up. The patent claims that the liquid projectile, 56, preferably has a maximum mass of 0.1 grams. The barrel consists of a muzzle end, 48, which should be non-conductive, between 2 and 3.5 mm in internal diameter and 20 to 50 mm in length and a breech end, 50, which should be conductive and the same diameter as the muzzle end. An electrically conductive pin, 52, serves as the second electrode in contact with the projectile. The patent suggests that capacitor 22 has a value of 150 mF and is charged to 1000 volts, giving a stored energy of 75 joules. The inductance, 36, totals ~0.5mH, giving a discharge frequency of 18 KHz.

Upon closure of switch 40, the patent claims that a portion of the projectile is converted into a 3000-6000 °C plasma which is accelerated down the conductive portion of the barrel, like the plasma armature of a **rail gun**

<http://members.tm.net/lapointe/EMGuns.html>, pushing the remaining portion of the liquid projectile in front of it. Back to Water Gun Main

<http://members.tm.net/lapointe/WaterGunMain.html>

**Ultrasonic superheating water explosion cannon** (surprisingly interesting page)

<http://amasci.com/news.html>

One of the old postings on the "weird science" page involved a report where a column

of water in an ultrasonic resonator flew upwards and punched a hole in the ceiling and in the roof above. See **Keely ultrasonic explosion**

<http://amasci.com/freenrg/h2oblast.html>. While waiting at the opening of the "Steamboy" movie, several things suddenly fell into place for me. First, guess what happens if we leave some water for hours under high powered ultrasonic treatment? This degasses the water, removing all the dissolved air. Heating the water increases the effect. Second, what happens if we strongly heat some thoroughly-degassed water? If microbubbles are lacking, then the water temperature will rise far above 100C, and the water will be massively superheated. It may even superheat to such an extent that, once it starts boiling, the entire volume of water may convert to vapor.

Finally, what happens if we place water in a resonant ultrasonic chamber where the transducer is located at the bottom? In that case the pressure excursions will be maximum at the surface of the transducer and at the surface of the water. But the upper water surface will cool by radiation, so if cavitation were to commence, it would be at the bottom of the water column against the transducer. All together, this is a recipe for a cannon, but a cannon where the bullet is a slug of water propelled by its own steam output. A tiny bubble will break out at the bottom of the water column, and the bubble will instantly fill with live steam. The water column will be smoothly accelerated upwards as the superheated water emits a downwards "exhaust" of hot water vapor. As the steam leaves the water, the water cools, but if the superheated temperature was high enough, the water would not stop cooling. As the water slug leaves the pipe, the vertical water surface will emit vapor in all directions with little propulsive effect, while the bottom surface will act like a rocket engine.

But would this be enough to punch a hole in a ceiling? Well, we know that if a kilojoule capacitor discharge propels a water column upwards, the water can punch a hole through a thick aluminum plate (tested by **Richard Hull and Dr. Peter Graneau** [http://www.geocities.com/waterfuel111/water\\_explosion\\_graneau2\\_03.gif](http://www.geocities.com/waterfuel111/water_explosion_graneau2_03.gif)). Yet in this capacitor experiment, turbulent disruption converted their water column into a water spray after a few feet of travel through the air.

But what happens when a superheated water slug sends steam outwards in all directions at high velocity? Maybe this would help preserve the shape of the water column on its journey towards the ceiling.

**The Complete Patents of Nikola Tesla** <http://www.luminet.net/~wenonah/new/tesla.htm>

Tesla's New York laboratories had several sections. This complex was arranged as a multi-level gallery, providing a complete research and production facility. Tesla fabricated several of his large transformers and generators in the lower floors, where the



machine shops of this building were housed. The upper floors contained his private research laboratories. He had attracted a loyal staff of technicians. Of all these, Kolman Czito was a trusted friend who would stand by Tesla for the remainder of his life. Czito was the machine shop foreman in each of Tesla's New York laboratories.

Tesla observed that instantaneous applications of either direct or alternating current to lines often caused explosive effects. While these had obvious practical applications in improvement and safety, Tesla was seized by certain peculiar aspects of the phenomenon. He had observed these powerful blasts when knife-switches were quickly closed and opened in his Polyphase System. Switch terminals were often blasted to pieces when the speed of the switchman matched the current phase.

Tesla assessed the situation very accurately. Suddenly applied currents will stress conductors both electrically and mechanically. When the speed of the switch-action is brief enough, and the power reaches a sufficiently high crescendo, the effects are not unlike a miniature lightning stroke. Electricity initially heats the wire, bringing it to vapor point. The continual application of current then blasts the wire apart by electrostatic repulsion. But was this mechanistic explanation responsible for every part of the phenomenon?

The most refractory metals were said to be vaporized by such electrical blasts. Others had used this phenomenon to generate tiny granular diamonds. Yes, there were other aspects about this violent impulse phenomenon, which tantalized him. Sufficiently intrigued, he developed a small lightning "generator" consisting of a high voltage dynamo and small capacitor storage bank. His idea was to blast sections of wire with lightning-like currents. He wanted to observe the mechanically explosive effects, which wires sustain under sudden high-powered electrifications.

Instantaneous applications of high current and high voltage could literally convert thin wires into vapor. Charged to high direct current potentials, his capacitors were allowed to discharge across a section of thin wire. Tesla configured his test apparatus to eliminate all possible current alternations. The application of a single switch contact would here produce a single, explosive electrical surge: a direct current impulse resembling lightning. At first Tesla hand-operated the system, manually snapping a heavy knife switch on and off. This became less favorable as the dynamo voltages were deliberately increased.

He quickly closed the large knife switch held in his gloved hand. Bang! The wire exploded. But as it did so, Tesla was stung by a pressure blast of needle-like penetrations. Closing the dynamo down, he rubbed his face, neck, arms, chest, and hands. The irritation was distinct. He thought while the dynamo whirred down to a slow

spin. The blast was powerful. He must have been sprayed by hot metal droplets as small as smoke particles. Though he examined his person, he fortunately found no wounds. No evidence of the stinging blast, which he so powerful felt.

Placing a large glass plate between himself and the exploding wire, he performed the test again. Bang! The wire again turned to vapor...but the pressured stinging effect was still felt. But, what was this? How were these stinging effects able to penetrate the glass plate? Now he was not sure whether he was experiencing a pressure effect or an electrical one. The glass would have screened any mechanical shrapnel, but would not appreciably shield any electrical effects.

Through careful isolation of each experimental component, Tesla gradually realized that he was observing a very rare electrical phenomenon. Each "bang" produced the same unexpected shock response in Tesla, while exploding small wire sections into vapor. The instantaneous burst produced strange effects never observed with alternating currents. The painful shocking sensation appeared each time he closed or opened the switch. These sudden shock currents were IMPULSES, not alternations. What surprised him was the fact that these needle-like shocks were able to reach him from a distance: he was standing almost ten feet from the discharge site!

These electrical irritations expanded out of the wire in all directions and filled the room in a mystifying manner. He had never before observed such an effect. He thought that the hot metal vapor might be acting as a "carrier" for the electrical charges. This would explain the strong pressure wave accompanied by the sensation of electrical shock. He utilized longer wires. When the discharge wire was resistive enough, no explosion could occur.

Wire in place, the dynamo whirred at a slower speed. He threw the switch for a brief instant, and was again caught off guard by the stinging pressure wave! The effect persisted despite the absence of an explosive conductor. Here was a genuine mystery. Hot vapor was not available to "carry" high voltage charges throughout the room. No charge carriers could be cited in this instance to explain the stinging nature of the pressure wave. So what was happening here?

The pressure wave was sharp and strong, like a miniature thunderclap. It felt strangely "electrical" when the dynamo voltage was sufficiently high. In fact, it was uncomfortably penetrating when the dynamo voltage was raised beyond certain thresholds. It became clear that these pressure waves might be electrified. Electrified sound waves. Such a phenomenon would not be unexpected when high voltages were used. Perhaps he was fortunate enough to observe the rare phenomenon for the first time.

He asked questions. How and why did the charge jump out of the line in this strange manner? Here was a phenomenon, which was not described in any of the texts with which he was familiar. And he knew every written thing on electricity. Thinking that he was the victim of some subtle, and possibly deadly short circuit, he rigorously examined the circuit design. Though he searched, he could find no electrical leakages. There were simply no paths for any possible corona effects to find their way back into the switching terminal, which he held.

Deciding to better insulate the arrangement in order that all possible line leakages could be eradicated, he again attempted the experiment. The knife switch rapidly closed and opened, he again felt the unpleasant shock just as painfully as before. Right through the glass shield! Now he was perplexed. Desiring total distance from the apparatus, he modified the system once more by making it "automatic".

He could freely walk around the room during the test. He could hold the shield or simply walk without it. A small rotary spark switch was arranged in place of the hand-held knife switch. The rotary switch was arranged to interrupt the dynamo current in slow, successive intervals. The system was actuated, the motor switch cranked its contacts slowly. Snap ... snap ... snap ... each contact produced the very same room-filling irritation.

This time it was most intense. Tesla could not get away from the shocks, regardless of his distance from the apparatus across his considerably large gallery hall. He scarcely could get near enough to deactivate the rotating switch. From what he was able to painfully observe, thin sparks of a bright blue-white color stood straight out of the line with each electrical contact.

The shock effects were felt far beyond the visible spark terminations. This seemed to indicate that their potential was far greater than the voltage applied to the line. A paradox! The dynamo charge was supplied at a tension of fifteen thousand volts, yet the stinging sparks were characteristics of electrostatic discharges exceeding some two hundred fifty thousand volts. Somehow this input current was being transformed into a much higher voltage by an unknown process. No natural explanation could be found. No scientific explanation sufficed. There was simply not enough data on the phenomenon for an answer. And Tesla knew that this was no ordinary phenomenon. Somewhere in the heart of this activity was a deep natural secret. Secrets of this kind always opened humanity into new revolutions.

Tesla considered this strange voltage multiplying effect from several viewpoints. The problem centered around the fact that there was no magnetic induction taking place.

Transformers raise or lower voltage when current is changing. Here were impulses. Change was happening during the impulse. But there was no transformer in the circuit. No wires were close enough for magnetic inductions to take place. Without magnetic induction, there could theoretically be no transformation effect. No conversion from low to high voltage at all. Yet, each switch snap brought both the radiating blue-white sparks and their painful sting.

**IMPULSES** -Tesla noted that the strange sparks were more like electrostatic discharges. If the sparks had been direct current arcs reaching from the test line, he would surely have been killed with the very first close of the switch. The physical pressure and stinging pain of these sparks across such distances could not be explained. This phenomenon had never been reported by those who should have seen and felt its activities.

Tesla gradually came to the conclusion that the shock effect was something new, something never before observed. He further concluded that the effect was never seen before because no one had ever constructed such a powerful impulse generator. No one had ever reported the phenomenon because no one had ever generated the phenomenon. Tesla once envisioned a vortex of pure energy while looking into a sunset. The result of this great Providential vision was Polyphase current. A true revelation. But this, this was an original discovery found through an accident. It was an empirical discovery of enormous significance. Here was a new electrical force, an utterly new species of electrical force, which should have been incorporated into the electrical equations of James Clerk Maxwell. Surprisingly, it was not.

Tesla now questioned his own knowledge. He questioned the foundations on which he had placed so much confidence in the last several years. Maxwell was the "rule and measure" by which all of Tesla's Polyphase generators had been constructed. Tesla penetrated the validity of Maxwell's mathematical method. It was well known that Maxwell had derived his mathematical descriptions of electromagnetic induction from a great collection of available electrical phenomena. Perhaps he had not studied enough of the phenomena while doing so.

Perhaps newer phenomena had not been discovered, and were therefore unavailable to Maxwell for consideration. How was Maxwell justified in stating his equations as "final"? In deriving the laws of electromagnetic induction, Maxwell had imposed his own "selection process" when deciding which electrical effects were the "basic ones". There were innumerable electrical phenomena, which had been observed since the eighteenth century. Maxwell had difficulty selecting what he considered to be "the most fundamental" induction effects from the start. The selection process was purely arbitrary. After having "decided" which induction effects were "the most fundamental", Maxwell then reduced these selected cases and described them mathematically. His

hope was to simplify matters for engineers who were designing new electrical machines. The results were producing "prejudicial" responses in engineers who could not bear the thought of any variations from the "standard". Tesla had experienced this kind of thematic propaganda before, when he was a student. The quantitative wave of blindness was catching up with him.

Tesla and others knew very well that there were strange and anomalous forms of electromagnetic induction, which were constantly, and accidentally being observed. These seemed to vary as the experimental apparatus varied. New electrical force discoveries were a regular feature of every Nature Magazine issue. Adamant in the confidence that all electrical phenomena had been both observed and mathematically described, academicians would be very slow to accept Tesla's claims.

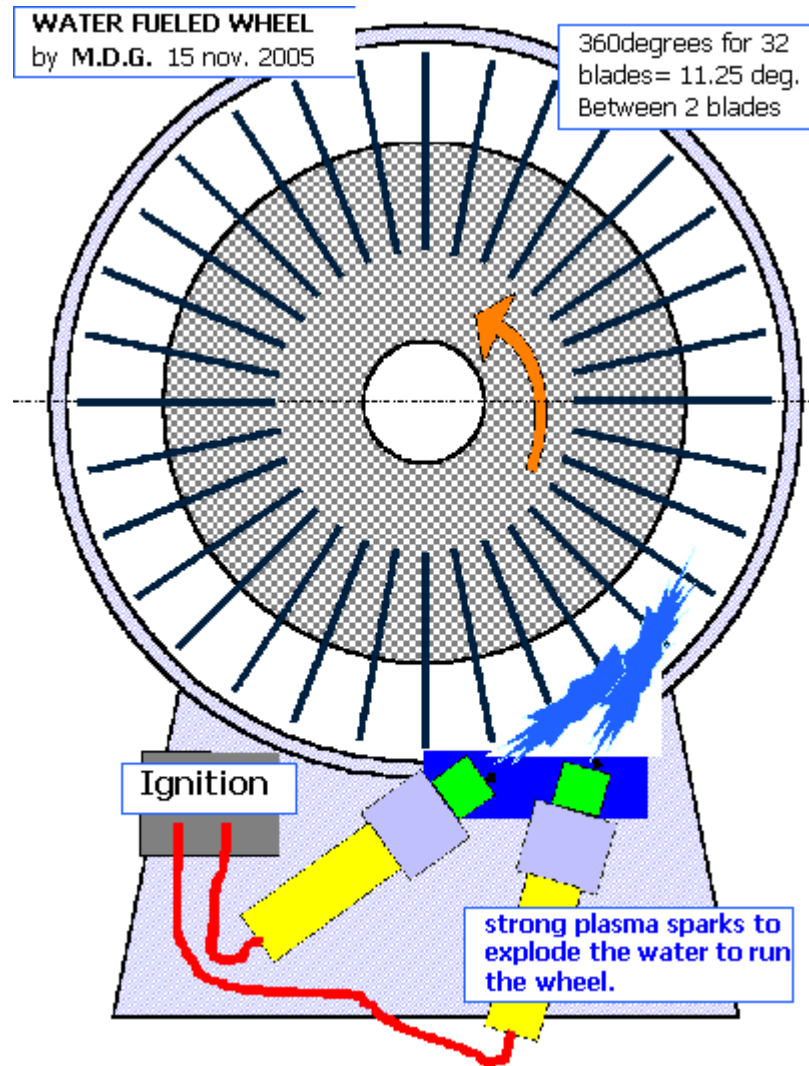
But this academic sloth is not what bothered Tesla. He had already found adequate compensation for his superior knowledge in the world of industry. Tesla, now in possession of an effect, which was not predicted by Maxwell, began to question his own knowledge. Had he become a "mechanist", the very thing which he reviled when a student? Empirical fact contradicted what that upon he based his whole life's work. Goethe taught that nature leads humanity.

The choice was clear: accept the empirical evidence and reject the conventional theory. For a time he struggled with a way to "derive" the shock effect phenomenon by mathematically wrestling "validity" from Maxwell's equations ... but could not. A new electrical principle had been revealed. Tesla would take this, as he did the magnetic vortex, and from it weave a new world.

What had historically taken place was indeed unfortunate. Had Maxwell lived after Tesla's accidental discovery, then the effect might have been included in the laws. Of course, we have to assume that Maxwell would have "chosen" the phenomenon among those, which he considered "fundamental".

There was no other way to see his new discovery now. Empirical fact contradicted theoretical base. Tesla was compelled to follow. The result was an epiphany, which changed Tesla's inventive course. For the remainder of his life he would make scientific assertions, which few could believe, and fewer yet would reproduce. There yet exist several reproducible electrical phenomena, which cannot be predicted by Maxwell. They continually appear whenever adventuresome experimenters make accidental observations.

**SUPER SPARK PLUGS and HOT WIRE systems**, moved to the dedicated page, in 'Fuel Savers', [Super Spark Plugs](#)



**Flash Steam Basics** <http://www.flashsteam.com/Basics.htm>

I want to reference a very significant book that all steam enthusiasts should know about. "The Pictorial History of Steam Power" by J.T. van Riemsdijk and Kenneth Brown, 1980 Octopus Books Limited, ISBN-0-7064-0976-0. A very interesting sub-chapter called Efficient Use of Steam begins on page 56. This is a rare book and I highly recommend reading it from cover to cover. This book describes Stephenson's link motion valve gear, which is the main inspiration for the variable valve lift feature of the L912 injector valve. It not only has wealth of drawings but also seriously discusses steam theory. This book covers everything if you look closely enough and it is a pleasure to read.





As this article progresses you will find the scope will become quite advanced, taking what was learned in the past and applying it to the advancement of the technology and building on it successfully, without breaking any laws of thermodynamics. It does, however, take advantage of more than just the "first and second laws". J.W. 10/25/2002.

During my experience as an A.S.E. master automotive technician. I often wondered why so called critics believe that flash steam engines cannot be built. And at the time I was studying thermodynamics. To better understand turbochargers. And how they positively affect the performance of internal combustion engines. Needless to say I learned much on how turbochargers actually work. Also I studied using water injection as an intercooler in diesel turbo applications. Which I found very very interesting. And can tell you this is common practice at "today's" diesel tractor pulls. It is how they maintain such high boost pressures. Since all turbo's work on a principle of heat of compression in the impeller section. I mention this because it is important to have a diverse background of study. And most who attempt flash steam engine construction do not. The same can be said of those who criticize such engines. But that being said, people tend to interpret things differently. It is inevitable that there will be a different view of the same thing. And this is usually learned by experimentation and reproducible results.

I am enthusiastic about the prospect of a flash steam engine. Many years ago I began my own research and development to explore this possibility. The very first thing I was concerned with was the primary heat source for such an engine. Certain prerequisites had to be established. Cost of the fuel was of primary concern. Since I have put in hundreds of hours testing external combustion chambers. And fuel can be expensive over time. Feed corn is the solid fuel of choice. It's cheap and burns remarkably clean. But most importantly has "tons" of btu energy per weight. I disagree with those who say corn should not be burned as a fuel. It is a shame to see "mountains" of feed corn simply rot in distribution locations since there's no buyers. After all the American farmer almost always loses money on this crop. Since there is sometimes an excess supply. In this application it can be used directly without ANY processing. It can be burned in external combustion chambers. Burning corn in an ideal combustion chamber, is considered as

a high-grade heat source as fuel oil. For this purpose. The real benefit here is that the corn does not require further processing. Such as is the case with ethanol or other alternative liquid fuels. Making it cheaper to use in this application. In fact it has been speculated that if it wasn't for the cheap price of corn. building a steam engine of this type wouldn't be economically reasonable. because this type of steam engine will in fact operate with the other fuels. But I wouldn't go so far as to say any heat source will do. You need a high-grade heat source to make this work. When this reaches a commercial stage the fuel will be cheap enough to make it economically attractive. As far as the super efficiencies that have been claimed by people in the past. That is still unclear. But the flash steam engine may be made to operate. That is clear.

So with the heat source situation under control, I set off to create a flash steam engine. And decided to base my flash steam engine on a four stroke engine. I want to point out some benefits to using an four stroke engine. First is compression stroke, it makes heat and this is good. second is the intake manifold vacuum it's good because it can draw steam thru a condenser. And since the spark plug only fires once during two rotations of the crankshaft. It has a conservative operating schedule. So I said why not, lets inject superheated water thru the spark plug port. It should flash and produce pressure and cause the engine to run. My first attempt was to run an engine off solenoid valves. I used argon just to test the idea. The first engine was a 2.2 liter 4 cylinder Toyota engine. And I used on shelf Honeywell 12 volt pilot operated solenoid valves. Set up a timing system to operate them. Plumbed them to the engine and connected a 2600psi argon tank to the thing. Believe it or not it worked. The highest engine speed I got was about 600rpm. And it ran about 3 minutes or so. And it could not be throttled. I tried using a ball valve but the engine either half choked itself or ran as fast as it could. Needless to say the dynamics were way off. And I deemed that type of valve unusable for flash steam injection. And I immediately realized the seat of the valve, needed to be inside the combustion chamber. Or as close to it as possible. The next thing that became painfully clear was the need to throttle the engine. The ball valve just wouldn't do. The injection valve itself needed to have variable valve lift to throttle engine. Then the pressure source could be unobstructed in its passage to the valve. Eliminating dynamic flow problems. And it didn't take long for me to realize nobody sells a valve like this. So I started my own company and built one. Once I had a good working valve in hand I was able to do the real experimenting. And I learned a lot real fast.

I already knew that if there was a volume of gas in the cylinder, it would push the piston. But what would flash steam do? In my endeavors with the injection valve, I was releasing flash steam. I would fill the valve with water then seal it. Then turn on the valve's onboard heaters. The pressure increased to very high pressures, such as 5000psi. I would then actuate or open the valve. Trust me its quite loud. And is similar to the sound

of a shot gun blast. I was full of optimism when I installed it on the test engine. J.W.  
10/27/2002



Please bear in mind that the experiments described here, were performed about two years ago. From the date of this writing. And this specifically pertains to moving a piston with flash steam not argon. Anyway here's what happened. I modified a 11hp Briggs and Stratton engine to accept the L912™Injector. Then set about discharging it while it was installed on the engine. First I rotated the engine to top dead centre on the compression stroke. Then installed the injector, heated it up and discharged it. Just like you see in the picture above. Except that it was discharging into the combustion chamber of the engine. The injector developed an internal pressure of about 3000psi. If the concept was to be sound, I needed good results from a static test such as this. So I crossed my fingers and discharged the injector into the engine. I was astonished to see that nothing happened. The piston didn't move one millimeter. I was overcome with disbelief. The engine was suppose to turn over but it did not. And I knew that if the engine did not rotate thru a compression stroke. In a static test, then it would not operate at speed. Or perhaps not at all. I asked myself what is going on here. This should work, the results in open air discharge were so fantastic. So I decided to put some more thought in to it. A day or two later I figured out what was happening.

Flash steam can form, or condense in a micro-second. Generally your expecting it to flash instantaneously when your trying to run an engine off flash steam. And this is possible. but it can destabilize just as quickly. And this is what was happening in my experiment. I was producing the flash steam just fine. But the engine block was cold. And it absorbed the flash steam directly into water. Almost producing a vacuum it was happening so fast. The room I was working in was air-conditioned and at a temp of 74°F. The mass of the engine block was at equilibrium with the room temp. And since the mass of the engine block was so much greater than the mass of the actual flash steam discharge. It simply absorbed it. This is probably the most important thing to consider when contemplating a flash steam engine. Back to the static test. I then proceeded to take a small propane torch and heat the block and cylinder head of the 11hp Briggs and Stratton engine. First I heated it to 180°F. Then set up the experiment same as before and discharged the injector. This time it worked. The engine kicked over about

740° of rotation. At 212°F the results were almost twice as good. In fact the rotation of the engine was so dramatic the engine almost jumped off the table. This is a very important thing to learn. And what is going on in this situation must be watched very closely. Since it is a relative factor that will affect performance drastically. For example it has been observed causing extended run times, in four-cycle engines running on argon. The hotter the engine block the better the performance. It has been observed in engines that are running on argon for ice to form on the exhaust valve stem. And the block is generally cooled by the compressed argon. but if you heat the block before running the engine. You will always get better performance. So this phenomenon is relative even in non-flashsteam applications. As should be the case. But the effect is much more critical in the case of a condensable vapor such as flash steam.

It is important to understand the concept of engine block heating. In fact this is common practice even with live steam engines. I believe its called steam jacket, or flowing a small amount of steam around the cylinder casting. This practice always promotes further expansion of the steam in the cylinder. Their by increasing efficiency. And is necessary on the flash steam engine as well. Except on a flash steam engine live steam is only present in the cylinder and exhaust. And if you are running the engine on flash steam, the hot water that your injecting into the engine. Will flash and release heat. And this is working in your favor. However all the engines that I work with, have a mechanism to heat the block. But the mechanism to heat the injected water is always more substantial.

J.W. 11/03/2002 ; All Rights Reserved- Jeremy W. Holmes, American Corn Burner ©  
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See also pages:

- Home <http://www.flashsteam.com/index.htm>
- Steam Engine Project [http://www.flashsteam.com/Steam\\_Engine\\_Project.htm](http://www.flashsteam.com/Steam_Engine_Project.htm)
- Steam Engine Project 2 [http://www.flashsteam.com/steam\\_proj2\\_pg1.htm](http://www.flashsteam.com/steam_proj2_pg1.htm)
- L912 Injector [http://www.flashsteam.com/L912\\_Injector.htm](http://www.flashsteam.com/L912_Injector.htm)
- Heat of rejection <http://www.flashsteam.com/Heat.htm>

### **Suggest faculty reading**

[Arc-liberated chemical energy exceeds electrical input energy](#)

### **Patents and related information**

## Patents

Firestorm Sparkplug

Patent number: 5936332

Filing date: Jul 21, 1997

Issue date: Aug 10, 1999

Inventors: Robert Krupa, Chester C. Lulavage

Assignee: Century Development International Ltd

&

Patent number: 6060822

Filing date: Aug 18, 1998

Issue date: May 9, 2000

Inventors: Robert Krupa, Chester C. Lulavage

Assignee: Century Development International Ltd.

### Abstract

A very unique universal bi-directional firing spark plug for any spark ignited internal combustion engine, whether racing, industrial, truck, aeronautical, automotive, recreational or residential (for trimmers, edgers, brush cutters, leaf blowers, leaf vacuums, chain saws, augers, tillers, lawnmowers, riding mowers, tractors, generators, etc.). This spark plug eliminates misfire and improves gas mileage, peaks engine performance, horsepower, and increases the RPM range, while utilizing and enhancing current ignition systems. In addition, this spark plug serves as a low emission device that reduces the effects of global warming, acid rain, and smog via greatly reduced emissions through vastly improved fuel combustion within all internal combustion engines by operating at a 24:1 air-to-fuel ratio. This unique spark plug is comprised of an elongated or non-elongated body with an electrical connector at one end. An absolute aerodynamic semispherical dome or sphere electrode is secured...

### Technical discussion

<http://www.energeticforum.com/renewable-energy/1169-robert-kurpas-firestorm-plugs.html>

Plasma Arc Ignition System" designed in 1993. It describes the concept of a combined high voltage, high current system. Although this was designed for gasoline there are some parallels to the work being done here. The diagrams even suggest some spark plug designs that may work best with a plasma arc.

Click on 'Documents' to view the 45 page pdf

<http://www.wipo.int/pctdb/en/wo.jsp?IA=CA1992000510&DISPLAY=DOCS>

More of his patents

<http://www.google.de/patents?q=PLASMA-ARC+IGNITION+SYSTEM&btnG=Search+Patents>

<http://www.pat2pdf.org/patents/pat6553981.pdf>

If that links doesn't work, goto:

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and enter patent # 6553981

[Dual-mode ignition system utilizing traveling spark ignitor - Patent 6553981](#)

[http://freenrg.info/Patents/Tesla/TESLA\\_US00568177.pdf](http://freenrg.info/Patents/Tesla/TESLA_US00568177.pdf)

[http://freenrg.info/Patents/Tesla/TESLA\\_US00609250.pdf](http://freenrg.info/Patents/Tesla/TESLA_US00609250.pdf)

## Papers

A plasma discharge effect and explode the water such that it may release more energy than what was put into it. [Please see this post:](#)

A plasma-jet ignition developed by Professor A. K. Oppenheim

<http://www.energeticforum.com/renewable-energy/2242-water-sparkplug-72.html>

### Paper discussion- From the over unity forum

For anyone who, understandably, has concerns as to the validity of the premise that the energy output exceeds the electrical energy input in this process, then I must strongly urge them to read and study a paper that was previously mentioned a few posts ago and was found and shown to me by my good friend Ben, who has now done some good research on this topic.

The paper was published by Cambridge University Press and was written by Peter Graneau from Northeastern University Boston USA and Neal Graneau from Oxford University UK. The title of the paper is, "Arc-liberated chemical energy exceeds electrical input energy". It is an excellent paper that fully supports and describes what we have seen in the basic and simple experiments described in this thread. Ben found the paper



here as follows: <http://tech.groups.yahoo.com/group/WaterFuel1978/files/>

Stephan has also uploaded the paper here:

<http://www.overunity.com/index.php?action=tpmod;dl=get93>

The paper clearly explains that the output energy is NOT from any H<sub>2</sub>O dissociation and ignition process but simply an electrochemical process where the hydrogen bonds of the H<sub>2</sub>O molecule, that causes water to remain in a liquid state, are broken by an electric plasma pulse which converts the water into a dense fog state. A fog state is where the H<sub>2</sub>O molecules are not bonded with each other to form a liquid state but are unbonded and densely dispersed with air to form a fog.

Quotes: "Experimental observations leave little doubt that internal water energy is being liberated by the sudden electrodynamic conversion of about one-third of the water into dense fog", "The loss of intermolecular bond energy in the conversion from liquid to fog must be the source of the explosion energy", "This bond energy is said to be equal to the latent heat of evaporation, and therefore could contribute up to 2200 J g<sup>-1</sup>."

So there is already some good academic science behind what we are seeing in this process. I have no doubt that the effects we have seen, as well as other effects yet to be discovered which you yourself have found, can be used and utilized to build a working engine or motor that is powered solely by pure water. Regardless if the result turns out to be a completely new design and form of engine or a simple retrofit to existing engines, the goal in the end is the same although the later would have a more rapid impact in terms of the application of the technology.

So I am very encouraged and pleased by your interest in this thread and some of the basic tests you have already done to see for yourself if there is anything real in the claims made. I hope that more important and serious researchers, like yourself, can come together to openly assist and work on what has been described in this thread for the benefit of all.

End

## **Related Links**

Blog - <http://yeswaterisfuel.com/> - Summary of recent water spark results

[water jet plasma](#)

<http://www.powerlabs.org/waterarc.htm>

[http://peswiki.com/index.php/Firestorm\\_spark\\_plug](http://peswiki.com/index.php/Firestorm_spark_plug)

<http://web.archive.org/web/20050307163215/www.robertstanley.biz/firestorm.htm>

[http://www.electricianeducation.com/theory/electric\\_transformers.htm](http://www.electricianeducation.com/theory/electric_transformers.htm)

[National High Magnetic Field Laboratory - Ignition Coil Tutorial](#)

## **Supplies**

<http://www.invertersrus.com/>

[Non resistor plugs](#)

[High voltage avalanche diodes](#)

## **Technical Discussion**

Added link to schematics: <http://www.overunity.com/index.php/topic,5024.0.html>

<http://www.overunity.com/index.php/topic,5154.0.html>

<http://www.overunity.com/index.php/topic,5112.msg113486.html#msg113486>

[Water Sparkplug -Energetic forum](#)

S1r-<http://tech.groups.yahoo.com/group/WaterFuel1978/>

## **Replication Videos**

### **Original Luc videos**

[Ganga Shakti - Water Power \(updated circuit\)](#)

[allcanadian circuit test 1](#)

[Ganga Shakti - Water Power Test 1](#)

[Ganga Shakti - Water Power Test 2](#)

[Ganga Shakti - Water Power Test 3](#)

### **Related experimenters video's**

<http://au.youtube.com/user/smw1998a>

[YouTube - water explosion](#)

[YouTube - plasma arc with gasoline](#)

[YouTube - New Circuit](#)

[Homemade injector/spark plug Plasma arc](#)

[Hydrogen reactor 12](#)

[Exploding Water With Just a 9V Battery](#)

[Plasma Spark Plug Test on Engine and water](#)

[YouTube - Water spark](#)

[YouTube - navigation2000's Channel](#)

[YouTube - Aaron's Water Spark Plug Amplifier](#)

[Plasma spark in running engine](#)

[Plasma Spark Plug Test on Engine and water](#)

[Remove the resistor from a sparkplug](#)

[How to remove the top on a Champion 8339 plug](#)

[YouTube - Water spark plug](#)

[Plasma spark, no water](#)

[water exploded plasma spark](#)

[plasma arc](#)

[BURNING WATER FROM A SPARK PLUG](#)

**johncarl43447**

[http://www.youtube.com/watch?v=l\\_kxaLBo\\_Xo](http://www.youtube.com/watch?v=l_kxaLBo_Xo)

<http://www.youtube.com/watch?v=fe2-czkeq2o>

**User crob227**

<http://www.youtube.com/watch?v=YKpEXXvI ZZ8>

[http://www.youtube.com/watch?v=PWglLC\\_UEwc](http://www.youtube.com/watch?v=PWglLC_UEwc)

<http://www.youtube.com/watch?v=LRX89SDHEiM>

## User Jetij

<http://www.youtube.com/user/Jetij>

### Plasma fusion related

[jet engine ignitor](#)

[Wasser / Water Explosion - Free Energy](#)

[Plasma Electrolysis Tero](#)

[hydrogen cold fusion plasma electrolysis Reactor CFR](#)

[Plasma electrolysis cell test](#)

[Water Arc Acceleration Plasma Ignition - HHO Hydrogen Cell](#)

[Cold Fusion Plasma 9](#)

[HHO flame / ionized spark gap 2](#)

[Injector with Water](#)

[YouTube - Water Arc Acceleration Plasma Ignition - HHO Hydrogen Cell](#)

[YouTube - The Jumping Marble \(Water & Plasma\)](#)

[YouTube - Plasma Water Engine Proof Of Concept Demo](#)

[Laser induced air breakdown \(w/sound\)](#)

[Stress forming dipole causes plasma burst](#)

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If you are able to contribute to this document in ANY way, IE- replication details, faculty info and or additional data please contact the non profit organization.

<http://www.panacea-bocaf.org>

<http://www.panaceauniversity.org>

