Ignition Secrets

The Mysterious Ignition Technology The Automotive Industry Has Known About For Decades, But Has Neglected To Reveal To You!

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Introduction

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Throughout my life, people that had a very high mechanical aptitude had surrounded me. Mostly, this was from my own family members and then during high school time, it

was my friends.

My grandfather (mom's dad) was a WWII veteran and had worked for ARAMCO after getting out of the military. He flew cargo planes, worked on oil rigs, but he was also an auto enthusiast including being involved with working on some of the first 200+ MPH Datsun 240Z's.

My own father was the first Japanese factory trained Nissan mechanic to come from Japan and work for a Nissan dealership in the United States. That was before he joined the U.S. Air Force and served our country for 20 years and retired as a disabled veteran.

My mother was even into cars and had a 1969 Camaro that she worked on herself, obviously with an influence from my grandfather.

My own hands on experience started in high school on Yokota AFB, Japan. The car I had was a 1979 Toyota Carina GT with a 1.6 liter EFI 2TGEU engine. That car never came to the states but it was a REALLY FUN car that was really a privilege to drive. It is probably the most fun car I ever had!

This car never made it to the states so I just have to share a picture – this is from late 1989 or early 1990.

1979 Toyota Carina GT

So like many people, I was always looking to tune it up here and there to squeeze more power out of my engine. It was mostly stock but outperformed every other car with the identical engine.

That included using the most fancy spark plugs and wires I could get including the best distributor caps and you name it. I even added some old Scorpion CDI (capacitive discharge ignition) module that I ordered from J.C. Whitney. I even had an interesting ram air intake system that was one of a kind.

Well, this was all high school stuff for someone that didn't have much money living overseas as an Air Force brat.

Anyway, it wasn't until MUCH later that I started to see a whole other paradigm in the entire ignition world that makes just about every spark ignition with or with peaking caps or capacitive discharge ignitions obsolete and I

mean in a VERY BIG WAY!

Think about this – how can I get a blinding nuclear explosion of a blast at the gap of a spark plug with the **same** power as a CDI?

That is just one of many variations of the incredible blasts that that are possible from a spark plug with this sort of ignition.

Now, what you'll get from this book and video package is a whole new ignition school of thought that has actually been around for a long time, but NOBODY is out there talking about it!

I do have to qualify that statement. This form of energy at the gap has been known about for a very long time. But, doing it with such a simple method that I invented has never been done as far as my research has leaded me to believe.

My goal is to inform you of the various ignition methods. You will see the differences and then you will have your mind completely blown away when you see what is possible with simple off the shelf parts to enhance some ignitions systems that will then give you some blasts that you never thought would be possible.

You will be armed with the info to take your own knowledge in ignition systems to NEW HEIGHTS and that is not an exaggeration. When you learn what I have to offer in this package, you'll see that this just may

revolutionize the entire ignition industry worldwide – and if the carmakers won't do it, then you always have the option!

It isn't like this hasn't been talked about in some circles that experiment with cutting edge technologies but due to the fact that you and your neighbors aren't running your cars, generators or anything else that requires a spark plug with this ignition – that means that you need this information more than ever.

And with who knows what is coming down the line with all the crazy political and economic happenings right now? You just might need the best ignition you can get on a gas generator, motorcycle, car and anything else that runs on gas.

Anyway, congratulations and thank you for taking the time to put this Ignition Secrets package into your hands – you will be glad you did!

Before we get on to the first chapter, I'd just like to dedicate this book to God, my family for support, inspiration and the car bug genes that got me going, to all my Yokota High School car freak buddies and just for the heck of it, to my Carina for giving me an outlet for my love for tinkering with things. ☺

1

Brief History of Ignitions

When you combine fuel and air in the right mixtures into a combustion chamber, all you need to do is add some fire (spark) and you get an explosion.

That explosion pushes down your piston and that translates to making your wheels go round on the road and that takes you somewhere.

Some of the oldest engines ran on a *flame ignition*, which isn't very different from a pilot light on any gas burning stove or water heater.

Basically, some fuel and air would fill a cavity and when it comes in contact with a pilot flame, you get an explosion!

That is a very, very simplified explanation of how that works but demonstrates the point. And you probably already have a feeling that things have come a long way since then.

Not too long after, these flame ignitions were replaced with spark ignitions. High voltage causes the spark so it is of electrical nature instead of a fire one but both of course are technically plasma.

This electrical ignition is generally known as a *magneto ignition*.

The magneto types of ignition is what the Model T ran on and still to this day, lawnmowers, motorcycles, ATV's and many other smaller engines still run on magnetos. Even my snow blower runs because of a magneto ignition!

Actually, magnetos are so reliable, even more so than the normal spark ignition systems that uses battery power that many aircraft and even racecars use magnetos. They are much more preferred over the battery power spark ignitions because of their reliability.

In simple terms, a rotating flywheel has a magnet or magnets on it. As that magnet sweeps past an electromagnetic coil, it induces a current that causes a magnetic field. When the magnet leaves, the magnetic field collapses very quickly and a high voltage is produced. There are variations of this with different kind of contact points, etc… but this is the idea.

If that high voltage happens to have a gap to jump over on its way to ground, it will jump the gap and you will see a spark. Many of these magnetos are reverse polarity so the body of the engine is actually the positive and the HV electrode of the spark plug is a negative.

That gap by the way is the gap on a spark

plug.

Regular spark ignitions systems that we have in our cars today for the most part are very simple. It operates by the battery voltage (12VDC) being applied to an ignition coil and when the power is taken away, the magnetic field collapses and goes over some other windings that make the voltage go higher until it jumps the gap over a spark plug. These too can be in either polarity in relation to the ignition coil terminals but the body of the car is normally still ground or negative.

This is the typical spark ignition system that just about everyone is driving his or her car on.

An early innovation into ignition advancements dealt with peaking capacitors.

A capacitor is an electrical component that is supposed to store an electrical charge. When this capacitor is placed across the gap on a spark ignition system, the spark cannot jump until the capacitor is filled up. Then when the capacitor is filled up from the high voltage from the coil, it will jump the gap wit a more robust spark since it is not just a simple spark – it contains all the charge from that capacitor as well.

Peaking caps were probably the first legitimate serious enhancement to ignition

systems and they are still in use today even though for some strange reason, many people do not even know what they are.

After this, the next ignition enhancements were CDI's (capacitive discharge ignitions).

Even though capacitors are used, they are much different that peaking caps. They are not placed across the spark gap.

Normally, a 12VDC (12 volt direct current) battery is connected to the input coil of an ignition coil. When removed, the field collapses and a high voltage will be produced on the output coil, which has many more windings on it.

With a CDI, a capacitor is charged to a few hundred volts and that is connected to the input of an ignition coil so you can imagine how much more the spark will be amplified.

Just think – 12 volts versus 350 volts being put to the input coil of an ignition coil. Obviously with the CDI, there will be a much more powerful spark at the spark plug and there is!

The CDI is much better than peaking caps in my opinion.

We both know we can go on and on about various fancy spark plug designs and methods that are supposed to give you such tremendous boosts in ignition performance; we've all heard

this before. Basically, the increase you get is usually NOT worth the money because it is such a small increase in spark power that you'll never recoup your investment. Nor will you easily tell any difference on the track.

There are some good products in each category and I've used some of them but for the most part, it isn't that impressive.

There is a very significant ignition advancement that I'm focused on and that is the topic of this package.

Don't worry – it is much more simple than you think and you don't even have to get something that crazy looking to have some results. By the way, I have gotten blasts from the tip of a spark plug bigger than a golf ball! And if you are satisfied with this package for 70 days, I'll give you a bunch of videos that go into a lot of detail on all of that AND MORE!

Anyway, how does that compare to the puny little sparks that you see from all these supposed high performance ignitions systems or spark plugs?

But let me be the first to tell you again, you don't need crazy stuff for big increases in performance and gas mileage while getting decreases in emissions at the same time!

A high power CDI with some good plugs is about the best you can do with the

conventional technology that you can buy from any performance ignition company.

The burst will be just a little more impressive than a typical spark ignition.

What I want to show is how to get a BALL OF WHITE LIGHT – NOT a spark. You'll see with your own eyes that what I have described blows away any peaking cap or CDI system available on the market anywhere in the world made by ANY company hands down no contest!

2

Basic Spark Ignition

FIG 2.1 BASIC SPARK

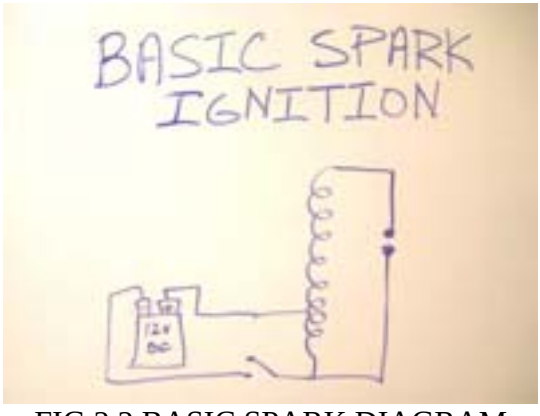

FIG 2.2 BASIC SPARK DIAGRAM

Spark Ignition systems are the most prevalent in the world today. I'm talking about for the typical automobile. There are countless

millions of magneto systems in operation around the world. Magnetos are used on generators, motorcycles and countless other engines.

Basically, a 12v battery is connected to the input of an ignition coil and when disconnected, the magnetic field collapses and high voltage is created. That high voltage is high enough that it can jump the gap of a spark plug so it can ground itself and that spark is what ignites the air fuel mixture in the typical gasoline engine.

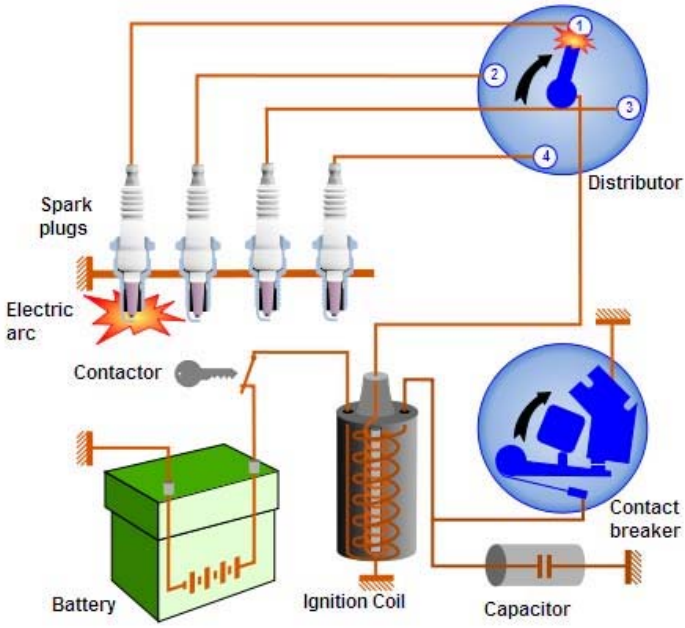

FIG 2.3 SPARK IGNITION

The above image shows a typical spark

ignition system in a four-cylinder car engine.[1]

You can see that a battery is connected to the coil. The contact breaker is inside the distributor cap. When the spark should be fired, the contact breaker disconnects and the spark jumps over the correct plug gap determined by the correct plug number indicated in the distributor.

I need to mention that the quest for higher performance ignition systems has a lot of benefits. For example, when a piston is coming up to compress the mixture of fuel and air, it is more difficult to ignite. This is because when more pressure and air is crammed where the spark plug gap is, it takes more power to get a spark to travel across that kind of environment.

Now, just imagine a type of ignition where the more air and pressure you pack into the area you want to ignite makes the ignition "spark", "flame" or "plasma" GROW BIGGER AND BIGGER – that is just the opposite of what normally happens!

If you told that to any mechanic or electrical engineer, the chances are they'd tell you it is impossible and you're crazy.

[1] Graphic by: *Frédéric MICHEL*. Available at: http://commons.wikimedia.org/wiki/File:Car_ignition_system.svg

Well, just wait until you have the last laugh with what you have your hands on with Ignition Secrets! ☺

For an easy to understand demonstration, please see my **BASIC SPARK IGNITION VIDEO** that you downloaded. The Holley Laser Shot ignition coil is reverse polarity and it has worked incredibly well for all my tests. You can use a standard ignition coil as well.

3

Peaking Capacitors

FIG 3.1 PEAKING CAPACITOR

FIG 3.2 PEAKING CAPACITOR DIAGRAM

One of the simplest and most effective ways that have been used to increase the spark's performance is to add a capacitor.

A capacitor is a passive electrical component that holds a certain amount of electrical charge.

Here is a picture of a capacitor that my partner Peter Lindemann gave me and I used it on some ignition experiments.

FIG 3.3 PEAKING CAPACITOR

This particular capacitor is rated at 30KV, which means 30,000 volts (thirty thousand volts). The 102 is a code that describes the capacitance or how much electrical charge it is holding. The number 102 represents a value of 0.001uF or 0.001 microfarads. This is very, very small, which is exactly what you want for a peaking capacitor!

You can see all the capacitor codes here if you want to know the capacitance of any

capacitor by the code number: http://www.csgnetwork.com/capcodeinfo.html.

Now what you do with this capacitor is very simple if you want to use it as a peaking capacitor to make your spark stronger.

You basically place it in **parallel** with your spark plug like the following picture.

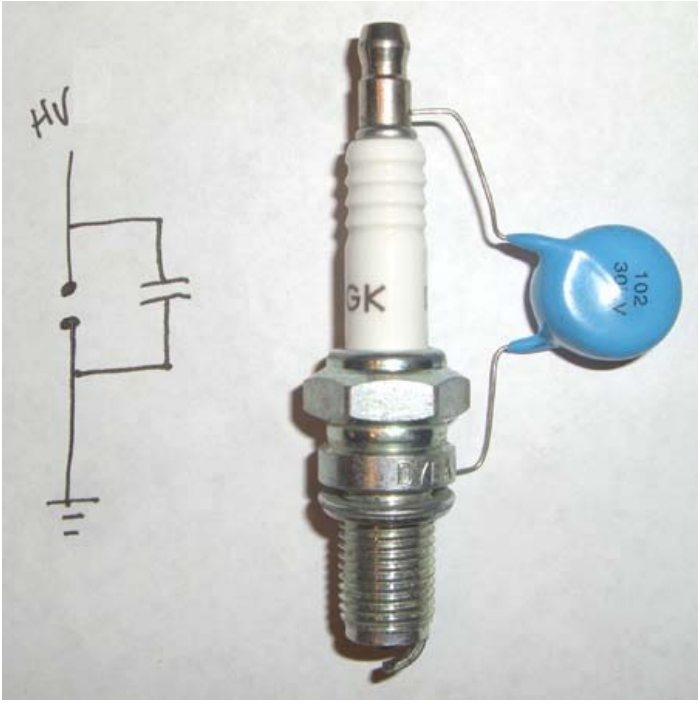

FIG 3.4 PEAKING CAPACITOR DIAGRAM

This modification can't get any simpler than this!

The diagram on the left shows a gap in

between the HV source and the ground (the triple horizontal lines).

The capacitor symbol is the two horizontal lines where one side of it is connected to the HV (high voltage) source and the other end is connected to the ground.

If the spark were to jump the gap with the peaking capacitor placed as indicated, the spark wouldn't be able to jump without first being swallowed up by the capacitor until the capacitor is charged to a voltage that is at the "breakdown" voltage of the gap. Then, it will jump the gap together with whatever was stored in the capacitor.

What that means is that you are building up this potential energy in a capacitor that gets discharged really quickly as soon as the capacitor is filled so you have a bunch of energy jumping the gap in a shorter period of time.

That is what makes a more impressive spark across the gap.

There is nothing magical about it. It works, period. There are even companies selling peaking capacitor add-ons for spark plugs at some pretty high prices but they do give you benefits to a certain point. But for the convenience of having a nice little thing that just snaps on to your plugs, it may be worth it if you don't want to rig up your own capacitors in

parallel with your plugs.

Please watch the **PEAKING CAPACITOR VIDEO** from the download page.

4

Capacitive Discharge Ignitions

FIG 4.1 CAPACITOR DISCHARGE IGNITION

FIG 4.2 CDI DIAGRAM

The standard high performance ignition modification is the CDI (capacitive discharge

ignition).

You already know how a capacitor is used in the peaking cap scenario.

With the CDI method, it is a much larger capacitor, but is still at a relatively small capacitance. It is typical to have a capacitor that is only a few hundred volts but the capacitance may be three or four microfarads (3uF).

You can see that is quite large compared to a 0.001uF with a peaking cap, but the voltage is way bigger.

With the peaking cap method, you are still using only twelve volts (12VDS) from a car battery when charging up your ignition coil before it discharges to a higher voltage.

With a CDI, you are literally charging up a capacitor to a few hundred volts and then discharging that into the ignition coil!

So instead of 12VDC (twelve volt direct current), you might be discharging 350VDC, which is almost 30 times the voltage!

So what happens is that when you discharge a cap into an ignition coil, you get WAY MORE energy dumping into the ignition coil with WAY MORE corresponding high voltage discharge going over the spark plug gap.

That translates to a more robust spark compared to a regular spark ignition or even a peaking capacitor.

The more energy you have there at the spark plug to ignite your fuel, the more power you will release because more of it burns – you get more mileage because when more burns you get more piston pushing action out of it – and you get a decrease in emissions simultaneously because obviously if more is being burned, there is less unburned fuel going out your tailpipe!

There are many variations of CDI's on the market and the most common is a capacitor that is charged and discharges once for each cycle.

There is an upgrade to this concept and that is a *multiple discharge ignition* module that charges a capacitor fast enough that each cycle you need an ignition blast, it actually discharges a capacitor MULTIPLE TIMES during each cycle to ensure more complete burning.

Here is an example of one of the lower cost units that was still designed by one of the best manufactures on the market: Street Fire Ignition. I have used this on all my tests and use this on one of my engines.

Check out my **CDI VIDEO** to see what this multiple discharge unit looks like compared to a regular spark or peaking capacitor.

5

Murakami Ignition

FIG 5.1 MURAKAMI IGNITION

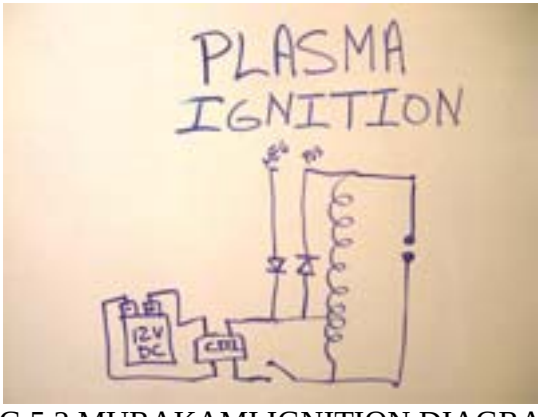

FIG 5.2 MURAKAMI IGNITION DIAGRAM

Ok, we're now going to get to the juicy stuff that is so incredible that it makes all the other ignition systems look not so hot.

They all served their purpose over the years but the need for something that is not an enhancement but rather is a complete quantum leap beyond what the old ignition systems can do is long overdue!

Welcome to *Plasma Ignition* systems. Surprisingly, these are nothing new either. However, as long as the principle has been around, there has never been a company that has ever really made them available to the mass market!

I find that not only nuts but also suspicious! How could something so revolutionary and breathtakingly profound never make its way to the limelight?

I'll leave that to your imagination.

This kind of plasma ignition is for real, it works, and these are the undeniable facts.

So, what is a Plasma Ignition? I'm glad you asked!

First of all, imagine the power you need to run a CDI system. That isn't that much at all when you think about it.

But imagine this… IMAGINE being able to get a blast up to 10, 50 or 100 times larger than a CDI blast FOR THE SAME AMOUNT OF POWER!

Let me tell you that again so you don't think you misread anything: IMAGINE being

able to get a blast like 10, 50 or 100 times larger than a CDI blast FOR THE SAME AMOUNT OF POWER!

That's right – it is an ignition method that can drastically crank up your ignition's ability without any extra power – it only takes a bit of clever manipulation of the electrical happenings in the CDI circuit in order to benefit from it.

I want to clarify something for you right now and I hope you see the distinction very well.

This kind of PLASMA ignition is known in the industry as Plasma Jet Ignition. HOWEVER, they ALL require multiple power supplies, a LOT of extra components, redundancies, and other things to get the effect.

They are very inefficient meaning they take a lot of power, they're not easily built by the average experimenter as well as other downfalls!

What my invention does is ELIMINATE all the extra components, and eliminate any need for a secondary power supply.

I make it unusually efficient because my way, the Murakami Ignition method, utilizes the already existing capacitor in a CDI unit as BOTH the ignition coil primary power supply AND the usually needed secondary power supply by the placement of a diode.

In my Murakami Ignition video, I show

you the difference by connecting a high voltage diode in a very tricky way to get this effect as I have shown in the video. Please see the **MURAKAMI IGNTION VIDEO** that you downloaded.

There are other videos that you downloaded and I'd recommend you watch the rest of those and pay close attention to the video that explains my model of how this kind of ignition system works that every patent, article and theory in history has got wrong, in my opinion.

I already recommended one basic CDI to test this circuit with. For the diode, I recommend making a string of diodes that consists of 25 each of 6A100, which is a 6 amp 1000v diode that is very rugged. You can get them here: Mouser (mouser.com). You can also get the spec sheet for this diode here: 6A100

Now that is a single string if you place it directly from the primary of your ignition coil to the high voltage of the coil.

If you want to make it more rugged, then make a string for EACH sparkplugs you have and place the string from the primary of the ignition coil to the HV of each spark plug individually.

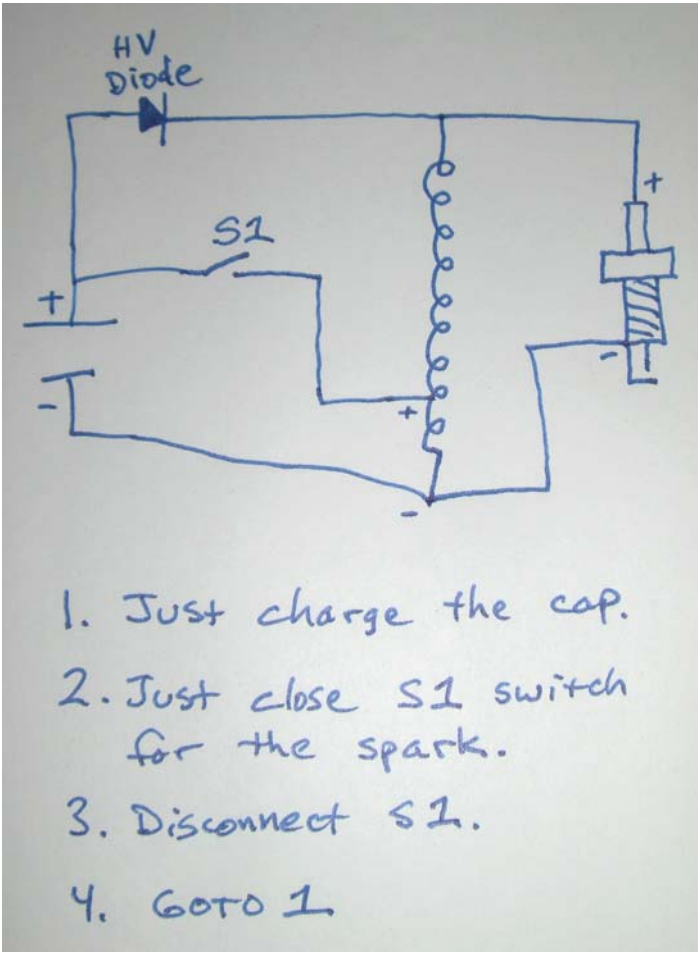

FIG 5.3 MURAKAMI IGNITION

The diode shown in the diagram above is for a positive HV output instead of a negative one. If it is negative, the diode needs to be reversed, hence the two different diode possibilities in Figure 5.2. Also, the diode can

either be connected directly to the capacitor or directly to the low voltage primary terminal on the ignition coil. For the effect, it doesn't matter.

I originally had mine on the capacitor for safety. The capacitor is shorted through the diode, through the ignition coil winding and back to ground so that if it is charged up and left alone, it will slowly discharge on its own.

When operating at any kind of speed, it will be charged up too quickly for the safety mechanism to short it out quick enough.

But for the simplest method of doing it, placing a diode directly between the low voltage terminal and the HV output is the most direct route for the shortest connection.

FIG 5.3 DIODE PLACEMENT

Do NOT use this diode method if you do not have a CDI type unit or self-made capacitive discharge circuit because it won't even work.

Some MSD units that spark multiple times per trigger do not directly connect the cap to the primary of an ignition coil. It uses a chopper to pulse the cap. However, MSD makes a "budget" unit called Street Fire that I have mentioned and use in my demos and I have had no problems. Street Fire MSD

I have also tested with single discharge CDI units meaning they fire ONE time per trigger and I have yet to find one that doesn't work.

I am still testing different units on an ongoing basis. I will report the results when I can and of course anyone can do their own tests. And if you do find other units that this technique works good on, please send me the details; I would LOVE to hear about it and possibly post your results in this book!

For practical application on a car, I would actually recommend a stronger than 95mj discharge even though 95mj is enough to work. I would also use separate 6A100 diode strings from the primary of the ignition coil to each plug. This means you have to make your own connections to the plug wire by soldering to the connection inside the boots. Following is a

picture of this.

FIG 5.4 DIODE CONNECTED INSIDE OF BOOT

Also, this effect works on every single

ignition coil I have tried – even really cheap lower voltage output ones. If the compression in an engine is too high, you may want to consider using a higher performance coil with high voltages to over come this.

The next picture is an example of a scope (oscilloscope) shot of an MSD at low frequency. You can see there are six to eight spikes per trigger.

A regular CDI, would show only see one single spike per trigger instead of multiple ones.

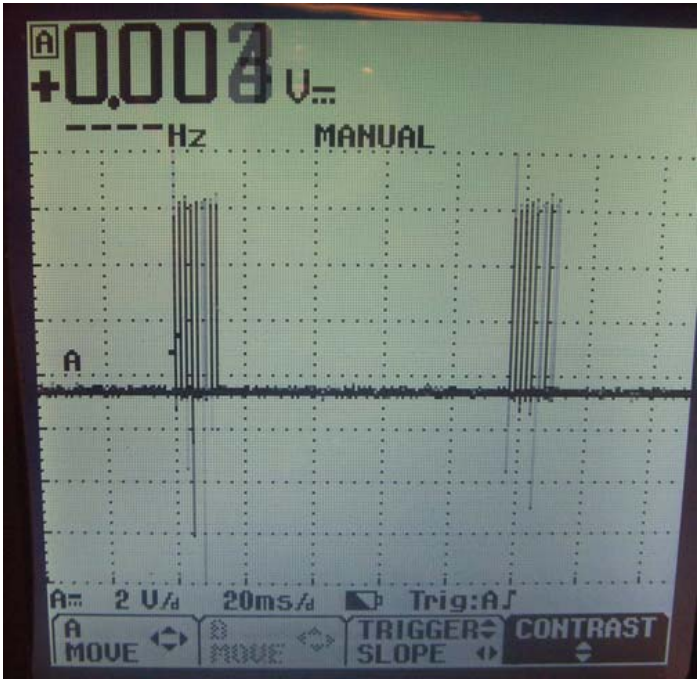

FIG 5.5 SCOPE SHOT OF MULTIPLE BURSTS

I have a 0.05 ohm calibrated current sensing resistor between the spark plug ground and the negative of the battery or ground on the circuit. This is a safe way to see the waveform without blowing out meters. I simply put the ground and probe from one channel of the scope on both sides of that resistor to see this.

The next picture shows how much amperage (current) is in a burst of plasma or a regular spark. You can see there is no comparison.

Also, it shows you that the impulse of the plasma is very, very quick and because it is so quick, the timing can be retarded a bit so that it is close to top dead center. In some circumstances, it can even be after TDC (top dead center) but you'll have to experiment with what works best for you.

For the purposes of the End User License Agreement (EULA), you are able to use the single cap method with the diode as shown on TEN (10) personal applications.

The EULA does not prevent you from unlimited use by other methods shown in expired patents or other open sourced methods that require secondary power supplies to get the plasma effect.

If you are interested in a licensing agreement to use this ignition method

commercially or you want to manufacture it for an a specific application, please contact me at info@whitedragonpress.com and let me know what you have in mind.

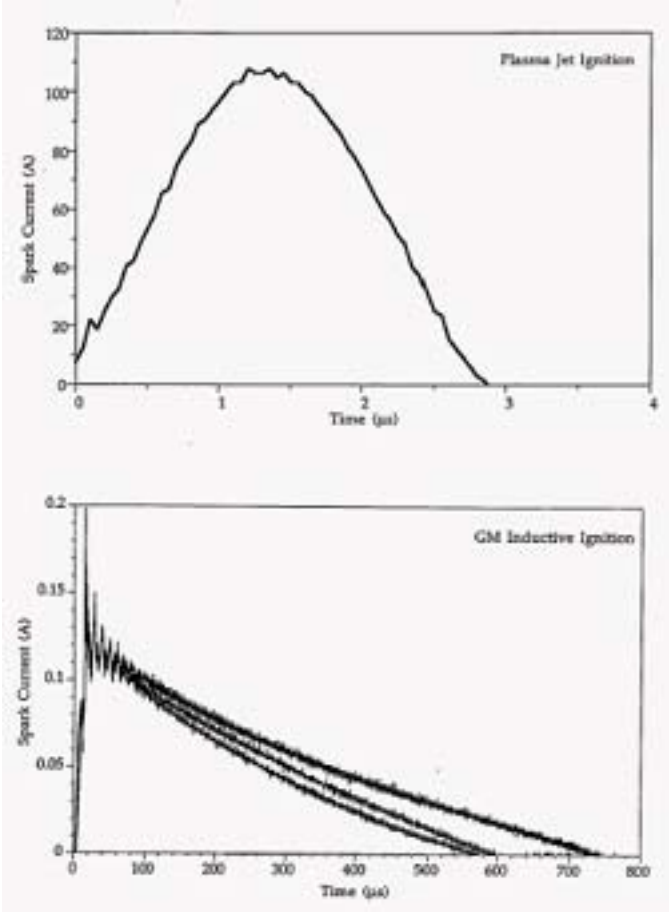

FIG 5.6 CURRENT COMPARISION

The plasma has an impulse current of 130

amps for this example and the typical spark current is averaging around 0.1 amps or 1/10 of 1 amp! This is quite a difference.

When looking at what the associated voltages are, this means the watts of energy dissipated in one impulse TREMENDOUS.

That is because it is a time-compressed impulse. All that potential is discharged into a small unit of time. Conventional thinking is that it is the same amount of energy anyway but it is not.

There are things possible that aren't otherwise and when there is such a sharp gradient (potential difference) in small very fast impulses, there are common violations of convention thermodynamics.

However, the effects are perfectly described by non-equilibrium thermodynamics (open systems). It isn't within the scope of this book to discuss things that are even more taboo than this plasma ignition system but if you're interested, then you may find *The Quantum Key* an eye-opener.

6

Spark Plugs

Here is a diagram of a typical spark plug[2]:

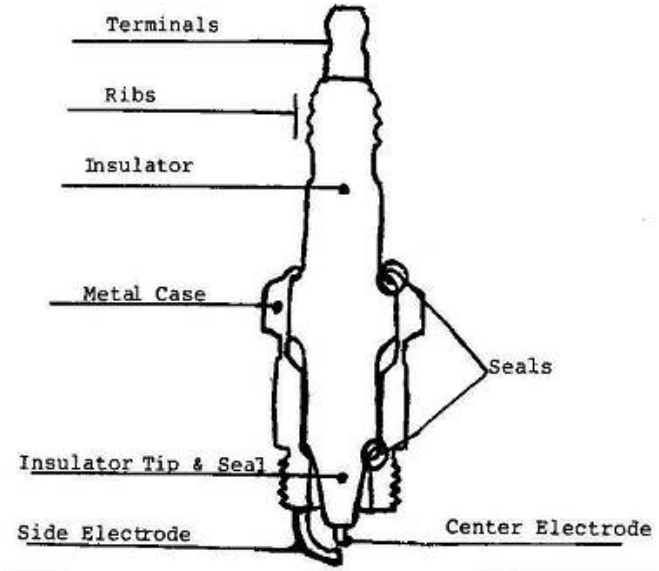

FIG 6.1 SPARK PLUG DIAGRAM

The "Terminals" is where you snap on your spark plug wire. The "Center Electrode" is the electrode that conducts that high voltage through from the wire that you snapped onto

[2] Graphic by: Motorhead. Available at: http://en.wikipedia.org/wiki/File:Plug_construction_-_en.jpg

the "Terminals". The "Side Electrode" is the ground, which is connected to the threaded part, which screws into the spark plug holes.

You can see that the HV electrode through the center of the plug is insulated and isolated from the ground and the only place for the HV to jump to is the "Side Electrode".

There is usually a very specific gap width that is preferred depending on the plug and engine/ignition system combination. The plasma ignition likes a big bigger gap than normal.

Here is one requirement for the plasma and that is the fact that **you must use resistorless spark plugs**. Don't worry because you can get them at just about any car parts store. Simply get non-resistor plugs for whatever engine you're experimenting on. If you want to experiment on the workbench, just use two nails!

Most, not all, sparkplugs will have an R in the part number if there is a resistor. If there is no resistor, then there is usually no R. The clerks at the car parts stores can help you out.

Recessed surface gap plugs are the best but they're more expensive. You can get the cheapest one you can find and it will work. For better results, you can cut off the J shaped ground strap and file any rough burrs.

Here is a picture of a sparkplug where I removed the entire strap and ground it down a

bit so there were no burrs sticking out any further than any other place. This plug is actually not a resistorless plug but I was using for some tests but it does show the concept of how to make your own surface gap plug.

FIG 6.2 HOME MADE SURFACE GAP

Here is a pic of a plug that I have NOT removed the J Strap, but I did bend it away far enough that the plasma will jump to the ground surface instead of to the strap. You can see the plasma is so blindingly bright that it overcomes the camera flash – and obviously it is quite different than any spark, peaking cap or CDI discharge.

FIG 6.3 SURFACE GAP PLASMA
HAS STRAP BUT I BENT IT BACK SO IT'S LIKE IT ISN'T THERE

Here is another picture of another view of what is happening in the exact same demo shown above (without flash).

I am attempting to get some 10,000 frames per second slow motion to show the plasma and will make these available as soon as I have them.

The effect is so lightening fast that it is very difficult to capture what is really happening with a camera. They never do it justice and neither does the sound in the videos, especially when you spray fine mist on the plasma – it then

gets downright crazy – but again, the videos can't quite pick it up very well. Seeing it with your own eyes is MUCH more incredible. Wear sunglasses and hearing protection. I'm serious.

FIG 6.4 SURFACE GAP PLASMA

The next picture is a factory made surface gap plug.

FIG 6.5 FACTORY SURFACE GAP PLUG

The factory one has too small of a gap for my taste. And, they're pretty expensive. If you have the tools, you can drill down the center electrode so it is recessed into the ceramic. And you could also drill out the flat surface so there is a larger diameter around the ceramic to make a bigger gap.

The goal in those modifications is to make a real plasma igniter and not just a "spark plug". On the download page for Ignition Secrets, there was a graphic you can download called Plasma Jet Ignitor. It describes how some off the shelf plugs were modified but you can do it much easier since you can start with a resistorless plug from the beginning.

Making a plasma ignitor isn't required

but it is optimum. You can just cut off the ground strap and make a surface gap plug from a resistorless plug and it will work well.

Honestly, the plasma is rough on a plug and they will not last as long as regular plugs, but if you're dealing with something like a 95mj discharge, then it will last much longer than if you had some monster blasts.

Here is the only "off the shelf" plasma ignitor I've seen so far and I think they're made in the Ukraine.

Make sure to watch the **SPARK PLUG VIDEO** that you got from the download page.

FIG 6.6 PLASMA IGNITOR

The above plug is from Plazmofor at http://www.plazmofor.com. It says it has a suppression resistor in it but I don't see specs for how much resistance. But just look at the geometry of the center electrode (recessed) and the ground is a focused channel to explode the plasma out like a jet. Also, there are three holes,

one very 120 degrees, for the plasma blast to be channeled out those holes as well. It looks like a really good design. If the resistance is low enough, it will work great for my ignition method.

7

555 Timer Circuit

A larger diagram comes in the zip file that this book was in.

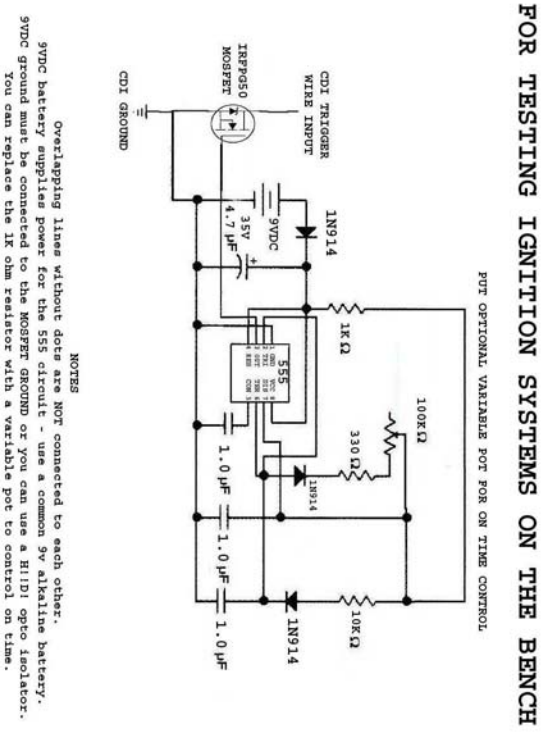

FIG 7.1 555 TIMER CIRCUIT

This circuit is based on a 555 timer. It basically sends a signal that can be fast, slow or with a short or long on time or short or long off time. I have it tuned so it is a very small on time for short duty cycle and the off time is variable.

I would suggest that you learn how to make some basic 555 circuits, as there are countless tutorials online. This is not a requirement. However, if you do want to experiment and test your ignition system on a bench, it sure beats manually putting the trigger wire to ground to trigger the event!

This particular schematic will give you around 8 to 80 pulses per second, which is perfect for bench top testing.

FIG 7.2 TIMER BOX FRONT

The picture above is the front of the control box. The top right red button turns on the power to the 555 circuit. The green light pulses with each pulse. The dial controls the speed. The left switch is to turn the power of the

CDI on. The red cover needs to be lifted and the switch inside needs to be turned on. If there is a need to quickly turn off the entire ignition, either switch can be turned off.

FIG 7.3 TIMER BOX BACK

The above picture is the back of the box with four wires coming out.

The top left is where the TRIGGER wire connects to and that is at the DRAIN of the MOSFET.

The bottom left goes to the ground on the battery and ignition coil.

The top right goes to the power for the CDI and the bottom right goes to the positive on the battery for the ignition.

The right side is optional and goes to the big red switch to turn on the ignition. That side is completely separate from the 555 circuit.

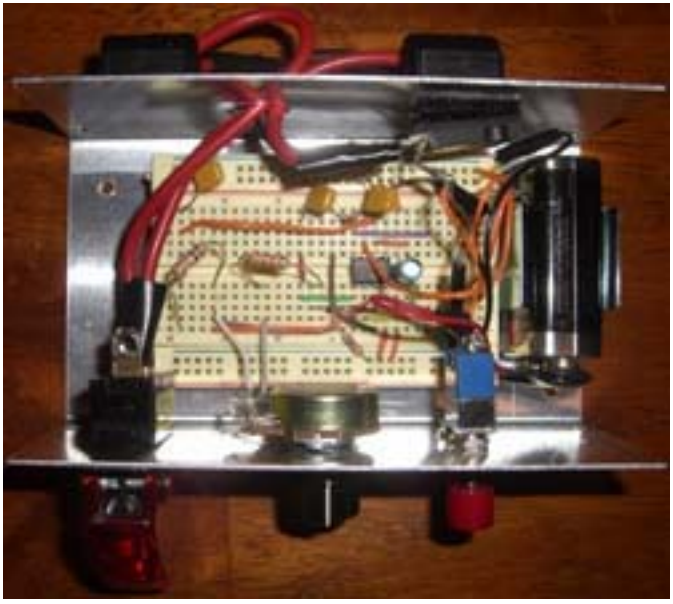

FIG 7.3 TIMER BOX INSIDE

Above is an inside shot of the circuit and below are pictures of the inside front side and back side so you can see better how it is all connected.

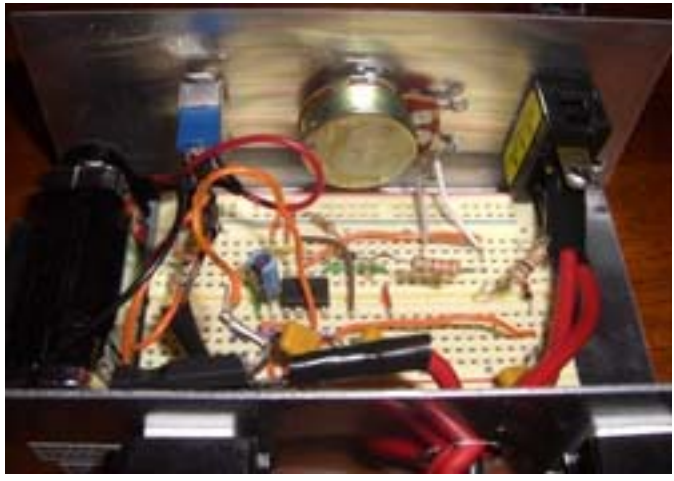

FIG 7.4 TIMER BOX INSIDE FRONT

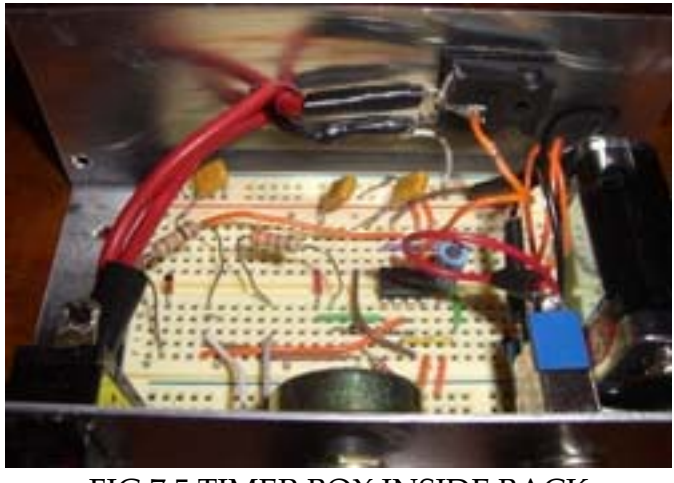

FIG 7.5 TIMER BOX INSIDE BACK

Please see the **555 TIMER VIDEO** for more information.

8

Diodes

Diodes are very important to the effect. The effect can be had without diodes, but use them for the basic circuits.

A diode is a one-way valve for either voltage or current depending on which way you look at it. It keeps voltage going in one direction while the current is going only in one direction and they are moving in opposite directions (voltage and current).

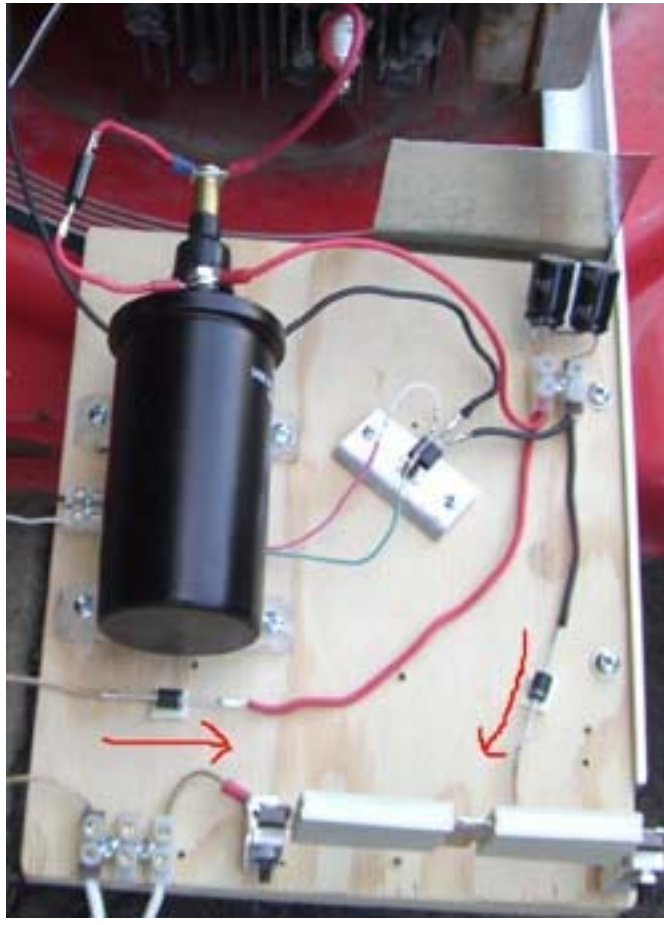

FIG 8.1 DIODE DIRECTION

The two diodes on this half bridge turns AC into DC at 60 cycles per second. You can see the diode is all black but has a white stripe at one end. Imagine that white stripe is an arrow pointing in the direction that the voltage goes.

The current goes backwards through it

but that is just confusion.

It is better to look at the diode and most electrical components from the voltage perspective, as there definitely is voltage pressure in the circuit and electron current theory is flawed beyond belief.

So with both diodes, you can see that the positive voltage can only move in one direction on that red wire towards the capacitors and then back to ground over the black wire. This application of the diodes will not let positive voltage potential move in the opposite direction.

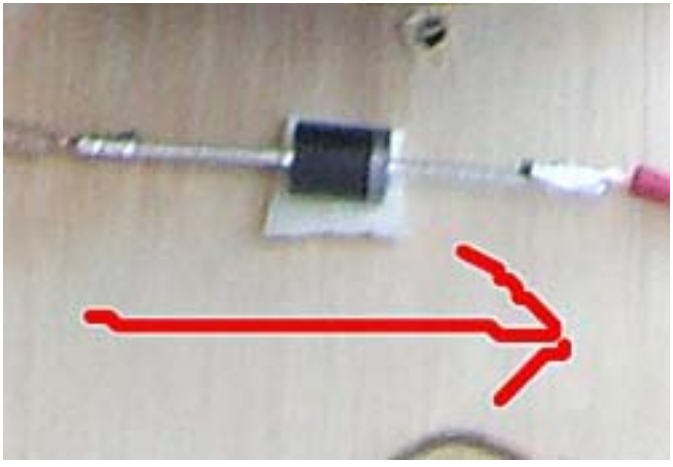

FIG 8.2 DIODE DIRECTION

Above is a close-up of one of the diodes. You can see the white stripe better and again, that is like the point of an arrow to tell you which direction the positive voltage will move.

FIG 8.3 DIODE DIRECTION

Above is a picture of a high voltage diode necessary for the plasma effect. This coil has a positive polarity for the high voltage. The capacitor (cdi cap) has its positive connected to the primary positive with is that bolt towards the bottom right.

That diode keeps the positive from that capacitor moving in the direction of the high voltage output from the ignition coil, which is that brass connector towards the top right.

When the high voltage leaves the ignition coil, it is thought that the diode should block

that high voltage from moving backwards through that diode and towards the capacitor, but it does not. There is an exception here and that is in my **MURAKAMI IGNITION MODEL VIDEO**.

The HV diode in Fig 8.3 is ok for lighter use such as a lawnmower, generator and other smaller applications with one piston at fairly low rpm.

However, for heavy-duty use, I recommend making a string of diodes that consists of 25 each of 6A100, which is a 6 amp 1000v diode that is very rugged. You can get them here: Mouser (mouser.com). You can also get the spec sheet for this diode here: 6A100

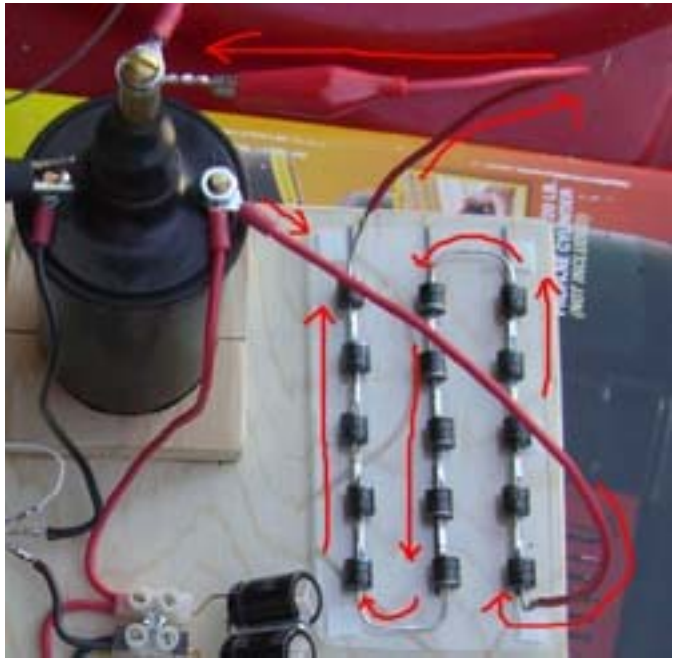

FIG 8.5 DIODE STRING

Above is a picture of a diode string made of fifteen 6A100 diodes. They're all in the same direction and that makes a very high amperage rated 15,000 volt diode. Notice they are pointing TOWARDS the high voltage.

The single microwave diode is around 15,000 volts but has an amperage rating of only a couple hundred milliamps. Six amps compared to that is monstrous.

I recommend a diode string like this for each sparkplug since it is quite a bit more rugged and I'd use twenty-five instead of fifteen

in a string.

If your ignition coil has a negative polarity HV, then simply reverse the diode(s).

FIG 8.6 NEGATIVE POLARITY

It is difficult to see the markings on the diode in Fig 8.6. The fat cable is connected to the HV output of the coil. This diode has an arrow on it instead of a stripe. It is pointing towards the capacitor (AWAY FROM THE HIGH VOLTAGE) instead of pointing towards the high voltage.

If you don't know what polarity your ignition coil is, call the manufacturer. Or, when you run the experiment, it will only give you plasma with the diode hooked up one way – it will not work both ways so when you get the plasma, you have it correct.

9

BONUS
E.F.I.E.

The gas fuel mixture is always kept very closely to 14.6-14.7 (depending on whose book your read) parts air to 1 part fuel. This is the air:fuel mixture and there is an entire science behind this.

In old carburetor cars, it is easy to change the mixture by tuning the gas jets. They can be opened or closed more or less to increase or decrease the mixture. If the gas is increased compared to the air, it is considered to be rich and if the gas is less than it normally "should" be compared to the air, then it is lean.

In almost all modern gasoline cars, they use electronic computer controlled fuel injection. That means a computer determines how rich or lean the air:fuel ratio is. I'll keep this simple. The exhaust leaves the engine and will pass by one or more oxygen sensors.

The oxygen sensor sends out a voltage and it is common for it to be between 0.1 volts and 1.0 volts. At least in many Japanese import cars it is that way for example. The fuel

computer reads this voltage. The higher the voltage, the more fuel will be pumped to richen it up and the lower the voltage, the less fuel will be pumped to lean it out. This is simplified but makes the point.

If the oxygen sensor sees that the burn is too thin and leaned out, it will richen it up. If a fuel saving device is put on a car with electronic injection, and if the device, fuel additive, plasma ignition, etc… is really working, the exhaust will appear to be lean to the oxygen sensor and it will send a higher voltage to the computer so that it pumps more fuel to richen it back up – thus sabotaging any fuel increases!

YOU WILL STILL GET IMPROVEMENTS even with the sabotage, but getting around this sabotage allows you to really see your improvements work.

Now don't get me wrong – I'm not saying all fuel saving devices work and electronic fuel injected cars are hiding all the results. I AM saying that devices that DO work are being sabotaged plain and simple.

And, if something works TOO well, it could actually cause a decrease in fuel efficiency because more and more fuel will be pumped in to richen it up.

Anyway, it is possible to still get great benefits from things that actually do work. But

ALL the benefit will not be gained because of the above-mentioned reasons. They'll still work and you can get ever better results by tricking the fuel computer.

There are remedies for this kind of built-in sabotage. Circuits can be built that go between the oxygen sensor and the fuel computer. The circuit reads the voltage from the oxygen sensor and drops it a certain percentage and then sends the lower voltage to the fuel computer to lean it out.

I must warn you that you assume all risk if you do any of this. I'm just providing information that mainstream sources have no integrity to provide you with. **It is illegal to tamper with emission control devices and you assume all risk for doing it.**

If you're engine is leaned out with a circuit like this without having some additive or other device that actually causes more of the fuel to burn, you could damage your engine. The engine can overheat and destroy itself. With a regular spark ignition, it really needs to be rich enough – now take note I say with a regular spark ignition.

As a note, I believe oxygen sensors do not simply read oxygen but possibly particulate density or something else because things that oxygen sensors sabotage do not necessarily add

more oxygen to the fuel so therefore, if the particulate density is less, it could read as more oxygen (meaning too lean) and that means it will richen it back up.

Here is one example of one of these circuits and they are called EFIE's – Electronic Fuel Injection Enhancer, which I believed *might* have been coined by a man named George Wiseman that has been involved in research into these topics for years.

Here is the #1 more credible resource anywhere for the EFIE circuit as he has been pioneering it probably longer than anyone, George Wiseman from Eagle Research: EFIE

You can get the how to manual or you can buy one already assembled. You'll need one for each oxygen sensor on a car. The one I show in the **EFIE VIDEO** is from a kit from someone else but George Wiseman's is definitely the best.

There are a lot of companies that make fuel management devices that allow you to tune the air:fuel ratio directly and these can cost hundreds of dollars so do your research because there are a lot of options.

Bottom line is that technologies such as the plasma ignition type systems allow you to get the same power for less fuel and unless you are able to have your electronic fuel injected car leaned out a bit, you'll still get benefits but not as

much and this is one of the primary keys to increased fuel efficiency in fuel injected cars.

10

BONUS
Magnetic Fuel Savers

The use of permanent magnets to treat fuel for increased efficiency have come under fire by so-called "experts" in the mainstream scientific world for many years.

There are many articles from mainstream that attempt to debunk the validity of magnets and their treatment of fuel and I want to share a few things here that I believe may suggest that the testing methods they are relying on are completely bogus.

Permanent magnets are claimed to be able to treat fuel such as gasoline, diesel, natural gas, liquid propane gas, and fuel oil.

The bare bones concept of how they are supposed to work is this: Hydrocarbon fuel molecules are clustered together very tightly and when moving through a magnetic field, the clusters are supposed to break apart so there is more surface area of the fuel molecules exposed and this allows for more fuel to burn.

If more of the fuel can burn, there will be more power with a reduction in emissions and in

the case of an automotive application, there will be more gas mileage. Is this true? Does this actually work on natural gas and can something like a natural gas boiler for example be made to use less fuel by putting magnets on the fuel line? There are obviously plenty of other possible scenarios that we could propose.

When using magnets on fuel, there are many things that need to be taken into consideration such as: magnetic polarity that is touching the fuel, geometrical relationship between the magnetic field and the fuel moving through a line, the strength of the magnetic field as well as a few other subtleties that are generally completely unknown to the mainstream pseudo-scientists. And unfortunately, these are generally unknown to most manufacturers of these very devices as well.

Let's discuss gasoline first because it is the one the "experts" get the most heated about.

There are many companies that make magnets for gasoline fuel lines on automobiles and they're usually called "**Magnetic Fuel Savers**." These come in all shapes and sizes with magnetic configurations of all varieties. Some have a north and south both hitting the fuel and just about any other variation possible. Some require cutting the fuel line to slip them on but

most can be clamped on the outside.

Every molecule at the molecular and atomic level is susceptible to a magnetic field.

Here is the definition of something that is helpful to understand some of this topic: http://www.britannica.com/EBchecked/topic/278523/hydrogen-H/80845/Ortho-hydrogen-and-para-hydrogen

"Ortho-hydrogen and para-hydrogen – Two types of molecular hydrogen (ortho and para) are known. ***These differ in the magnetic interactions of the protons*** *due to the spinning motions of the protons. In ortho-hydrogen, the spins of both protons are aligned in the same direction—that is, they are parallel. In para-hydrogen, the spins are aligned in opposite directions and are therefore antiparallel.* ***The relationship of spin alignments determines the magnetic properties of the atoms.***"

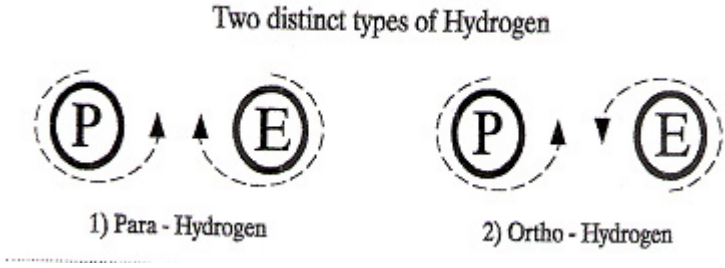

FIG 10.1 Para-Hydrogen & Ortho-Hydrogen

This is a simplified diagram of a combustible fuel molecule with **parahydrogen**:

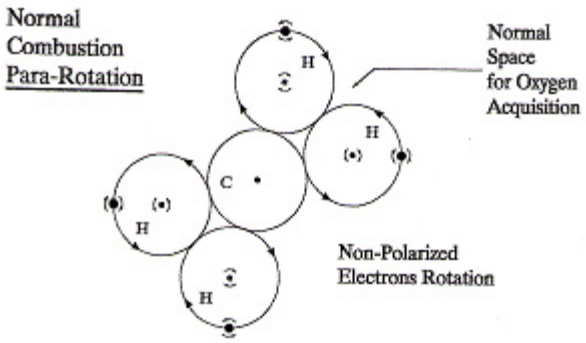

FIG 10.2 Para-Hydrogen

You can see that the hydrogen atoms are clung together very tightly and they are not polarized.

In the below image, you can see the difference with **orthohydrogen**:

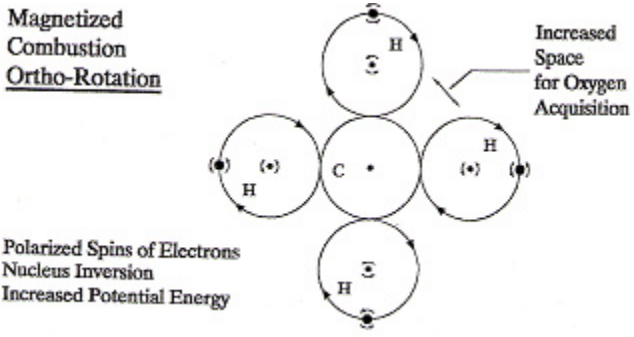

FIG 10.3 Ortho-Hydrogen

There is way more space for oxygen to get to the hydrogen in order for more of the fuel to burn. It is VERY established and known in

science that orthohydrogen will release about 3 times more power than parahydrogen for the exact same volume!

Please don't take my word for it – here is a Google Search for: Orthohydrogen & Parahydrogen

You're not going to get three times as much power or mileage from your vehicle because simply, there isn't a full conversion of fuel to the orthohydrogen form and with a simple spark ignition and the serious low efficiency of the entire internal combustion engine and energy transfer to the wheels, there are serious limitations. But most assuredly, there is an increase in power released in a gasoline or even diesel engine for the same reasons – IF, the fuel is treated with a magnetic field PROPERLY.

When the fuel goes through a properly arranged magnetic field, this is what is happening to the fuel and why more power is released and this is in addition to the fuel molecules breaking up into smaller clusters.

Now as far as magnets for saving fuel, I go with the one with the most documentation and they have been around longer than anyone. Magnetizer Industrial Technologies are the pioneers in this magnetic fluid conditioning technology. Their technology originated from the very patents of the pioneers in this field and

the pioneers were actually involved with the people at Magnetizer. I usually find when going to the source that they have an edge on just about everyone else.

Here are two PDF's specific to fuel treatment with Magnetizer products:

Introduction To Magnetic Treatment of Fuel

Microscopic Fuel Tests Using Magnetic Fuel Conditioning

Virtually every other company out there are doing their best to knock them off but they just can't get it right. I read on some company's websites that they are bragging about how strong their magnetic fields are because they use neo (neodymium iron boron) magnets instead of ceramics. There may be some difference but they're essentially sabotaging most of their own possible benefits.

But, little do they know a magnetic field that is too strong will actually negate the beneficial effects – so as many of us know – too much is not always a good thing. This is science, not, "let's throw mud at a wall and see what sticks!"

Once the clusters are broke and there is more surface area of the fuel, if the magnetic

field is too strong or lasts too long, they will "recluster" by forming chains that are in line with the magnetic field lines. Therefore the surface area decreases since they re-bond, in an orderly fashion, but nevertheless, there is a reduction in surface area from this. And this is why a magnet selected for the proper strength and placement is crucial.

There are a lot of nuances that are required into be understood in order to get the best results. There is one book that actually discusses the genesis of the Magnetizer technology and that is Magnet Secrets by Peter Lindemann. It is a wealth of information and references, specifically for this topic.

I want to leave you with a few references from Temple University. They show unequivocally that gasoline, diesel and other liquid carbon based fuels that are subjected to either magnetic or electrostatic fields also have a reduction in viscosity, which is of course an obvious sign of the breaking up of the molecular clusters. The fuel is becoming "wetter". When the surface tension of the fuel reduces, it will atomize better.

Final Report Reducing the Viscosity of Crude Oil by Pulsed Electric and Magnetic Field.pdf

Electrorheology Leads to Efficient Combustion.pdf

Electric Field Assisted Fuel Atomization.pdf

Investigative Effects of Magnetic Fields on Fuels.pdf

Reducing the Viscosity of Crude Oil by Pulsed Electric and Magnetic Field.pdf

And again, Magnetizer is the only company I deal with because of their endless documentation – please visit the Testimonials page on the website: Magnetizer Industrial Technologies

11

BONUS SPECIAL!!!

I was able to negotiate a deal with the first company in the world to ever offer plasma jet ignition systems to the general public. We'll make a Plasma Jet Ignition system available to you if you don't want to go the homemade route.

Some other companies are attempting to sell knock-off units but I'm only willing to associate with the original, since they are established and have the longest track record.

At the time of this writing, we are working out the details but in the meantime, you can visit http://www.plasmajetignition.com and sign up on the mailing list to get notice when the ignition systems are available.

Recommended

White Dragon Press – See my other digital downloadable products.

White Dragon Press Affiliate Program – Earn 60% commission with any referred sales.

Tesla Chargers – World's most powerful battery chargers. Can bring back about 80% of batteries that are doomed for the dump!

Magnetizer Products – Most documented magnetic fluid conditioning technology.

Affiliate Program – For Tesla Chargers and Magnetizer Products.

Plasma Jet Ignition – The most trusted and documented plasma ignition manufacturer that actually offers plasma ignition systems available to the general public.

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14. NO SUPPORT. Except as expressly required by applicable law, nothing in this EULA entitles you to any support or maintenance of any Application.

16. GOVERNING LAW, VENUE, AND ATTORNEYS' FEES. This EULA shall be governed by the laws of the state of Washington and the United States of America without giving effect to conflict or choice of law principles, and any litigation between the parties arising under this EULA shall be conducted exclusively in Washington state courts or the federal district courts within Washington. The parties agree to exclude application of the "United Nations Convention on Contracts for the International Sale of Goods" to this EULA. If you acquired the Package in a country outside the United States, then that country's local laws may apply. In any action or suit to enforce any right or remedy under this EULA or to interpret any provision of this EULA, the prevailing party will be entitled to recover its fees and costs, including reasonable attorneys' fees.

17. SEVERABILITY. If any provision in this EULA is invalid or unenforceable or contrary to applicable law, such provision shall be construed, limited, or altered, as necessary, to eliminate the invalidity or unenforceability or the conflict with applicable law, and all other provisions of this EULA shall remain in effect.

18. TERM AND TERMINATION. This EULA is effective until terminated. You may terminate this EULA by disabling all Applications of the Method. The licenses granted herein shall automatically terminate without notice if you fail to comply with any material provision of this EULA. In such event, you must immediately disable any Application and delete any and all copies of the Package in your possession. This shall not limit or affect any remedy available to TOPOTHELINE for your breach of this EULA.

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utilize the Murakami Ignition method.

20. EXPORT LAWS. You acknowledge that the Package is subject to applicable import and export regulations of the United States and of the countries in which you do business. It is your responsibility to comply with the United States and other countries' government requirements as they may be amended from time to time. Without limiting the generality of the foregoing, and regardless of any disclosure made by you to TOPOTHELINE regarding an ultimate destination of the Package, you shall not export, re-export, transfer, divert, or disclose (directly or indirectly) the Package or any portion thereof to any country in violation of U.S. export laws or regulations or any other law, regulation, or government order.

21. CONSTRUCTION. No rule of strict construction shall apply against or in favor of either party in the construction and interpretation of this EULA.

22. ASSIGNMENT. You may not assign, sublicense, or transfer this EULA, the Package or Method, or any rights or obligations hereunder without prior written consent of TOPOTHELINE. Any such attempted

assignment, sublicense, or transfer will be null and void. TOPOTHELLINE may terminate this EULA in the event of any such attempted assignment, sublicense, or transfer.

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