

# ***Complete Description of the Technology and the Influence on Engine Performance and Emissions***

## **The Nology Ignition Concept**

Nology Engineering is rewriting the book on ignition systems and judging by the success of their products, they know what they are talking about. At the 1992 Slick 50 Nations in Houston, one of their products was installed on the Jack Clark owned Top-Fuel dragster when driver Mike Dunn ran the sport's then fastest speed of 297.12 mph. Since then, the list of people using Nology's ignition products has grown to be as impressive as the success that these same people are having using the Nology products. "Big Daddy" Don Garlits, for example, was there right from the beginning and has been rewarded with several runs close to 300 mph (298 mph and 299 mph, respectively). Joe Amato has had two of the quickest runs ever at 4.751 sec. and 4.757 sec., and at the 1993 Winter Nationals in Pomona, Cory Mac completed an unbelievable three runs back-to-back at 300.60 mph, 301.50 mph and 302.21 mph. Jack Clark's Taco Bell Dragster at 304 mph, as well as Kenny Bernstein in the Budweiser car at 306 mph, are the newest additions to the impressive results that are proof positive that at Nology Engineering, they know what they are talking about.

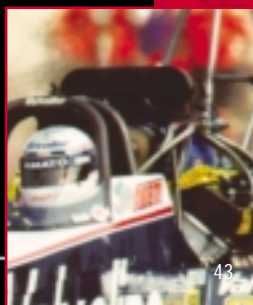
What's the secret to their success? The secret lies in their unconventional approach to designing ignition systems. Other ignition system manufacturers boast of their system's long spark duration. They'll tell you that their system has the longest spark duration, usually one to three milliseconds. When looking over the sales brochure for one of Nology's ignition systems, you also find a claim for spark duration, the shortest spark duration in the business. What do they know at Nology that other manufacturers don't?

Anyone who had physics in college knows the formula for power. In this case we're referring to ignition spark power. Power equals work divided by time ( $P=W/t$ ). Thus, to get more power, you need to do the same amount of work in less time. Sounds simple enough! Manufacturers of

conventional ignition systems though, want you to believe that it is possible to increase the power of ignition systems by lengthening the spark duration. This is not true! Lengthening the spark duration actually reduces spark power, as we already know ( $P=W/t$ ).



*Joe Amato, driver of the Valvoline Top Fuel Dragster, making history using Nology ignition*





Two spark plugs in a pressure chamber, simulating conditions in the combustion chamber. On the right a **HotWires**® spark and on the left a spark from a stock ignition system.

Smog Legal CARB #: D-414-10

US Pat # 6,559,376. International Patents Pending

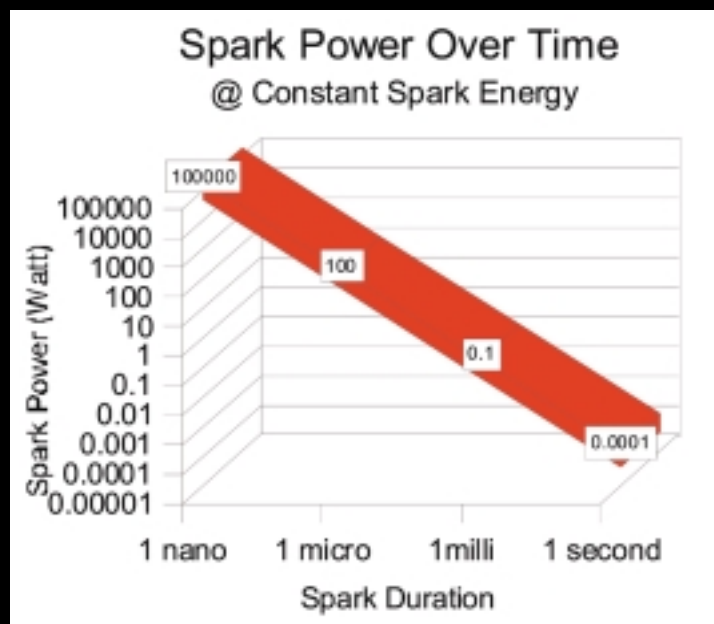
### Which spark is more powerful? Decide for yourself!

Let's look at the process of igniting the mixture in the combustion chamber. The coil is charged up until the voltage at the spark plug electrodes reaches the ionization point. When the ionization point is reached, the electrical energy jumps the spark plug gap, creating a spark. If the spark is powerful enough, the fuel mixture in the combustion chamber is ignited. The faster the process of igniting the fuel, the faster the flame front growth and the more powerful the igniting spark, the more complete the combustion. With this in mind, one has to wonder what a long spark duration is good for? A good analogy would be if we were to burn 1,000 gallons of gasoline over a long period (days), or blow it up all at once in a gigantic explosion lasting only 1 second ( $P=W/t$ ). The energy released is the same, but the latter is much more powerful.

By obeying the laws of physics and applying them to their ignition systems, Nology is able to build ignition systems with truly impressive performance data. Their claims are backed up by the success that their systems are having on the racing circuits.

We also find when running an engine at 7500 rpm or more there is no time for a long spark duration. First, the engine manufacturer recommends a precise ignition timing, but the spark has a long duration? That doesn't sound right. You don't want the spark to ignite the fuel mixture sometime during its duration, but at a precise moment, namely the recommended ignition timing. Secondly, if the spark is powerful enough to begin with, you don't need a long duration, only a big enough spark lasting a few nanoseconds. Furthermore, at 7500 rpm the spark of a conventional ignition system with a duration of 3 milliseconds will take 135 degrees of crankshaft rotation to complete. Not a very precise ignition timing, and a lot of wasted energy. Nology's ignition system spark duration needs less than one degree of crankshaft rotation to complete.

*This graph clearly shows the decrease in power, when spark duration is increased*



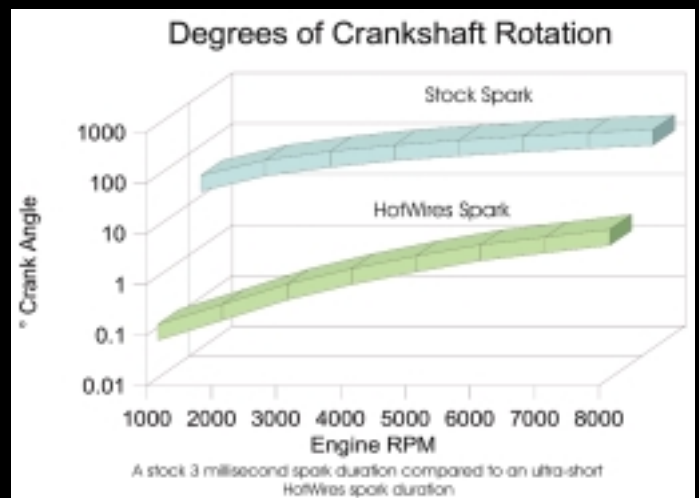


With a spark duration that short, the ignition timing is much more precise and spark power is increased substantially. Flame front growth is much quicker and combustion more complete resulting in increased horsepower and a cleaner burn. And because an ultra powerful spark can ignite more fuel, you can raise fuel flow, increasing horsepower even more.

To summarize, Nology's ideology on ignition systems is easy...get the job done quickly and with a big bang. It seems to work.

## Performance & Emissions

Nology Engineering developed HotWires for performance or emissions-oriented applications. A high energy ignition system is absolutely essential when attempting to reduce emissions or when building a high performance engine.



Television news and headline stores are filled with reports on global warming, ozone depletion and the need for more fuel-efficient, less polluting automobiles. Lawmakers and environmental groups try to force car manufacturers to build ultra low emission vehicles known as ULEVs in order to eliminate poor fuel efficiency and air pollution. ULEVs could come with gasoline-powered engines equipped with new fuel-saving and pollution-reducing technology, or with engines able to operate on alternative fuels. Some scientists and engineers assert that alternative fuels are not the solution of choice for many reasons. A big issue is the need for a fuel distribution network. Using alternative fuels increases fuel consumption, greatly reducing the driving range between fill-ups and emissions from such an engine can be just as harmful as those of gasoline engines. There are also fundamental safety concerns carrying some alternative fuels on passenger cars. That leaves us with gasoline powered ULEVs. Here we are confronted with a different problem. Car manufacturers claim that they are having a tough time working to meet future emission standards for gasoline-powered engines using existing technology. The engines in ULEV's have to operate ultra lean to be less polluting and more fuel-efficient. Such a lean fuel mixture is difficult to ignite using conventional ignition systems.

HotWires surpass conventional ignition systems by a wide margin. They generate a high power, ultra short spark that can ignite even lean fuel mixtures. Using HotWires results in an easier starting, smoother running and less polluting engine. Life expectancy of the engine is increased. A substantial increase in power is possible. A reduction in fuel consumption and exhaust emissions is always observed. HotWires can be installed in cars, trucks, motorcycles or boats of any year as a retrofit device or as original equipment.



### Superflow Engine Cycle Analysis (ECA)

#### TEST DATA INDICATES:

1. Decreased exhaust gas temperature (EGT)
2. Decreased cycle to cycle variation (S)
3. Decreased fuel consumption (BSFC)
4. Increased combustion pressure ( $P_{max}$ )
5. Faster combustion (crank angle @  $P_{max}$ )

Test	StockIgnition	HotWires Ignition	Change%
EGT 4500 rpm	1274	1241	-2.6
S (standard deviation)	48.8	43.8	-9.5
BSFC	841	813	-3.3
$P_{max}$ {psi}	873	931	+6.6
CA @ $P_{max}$	10.4	8.8	-1.6°

Many engine and car manufacturers have tried to lean out the fuel mixture of gasoline and alternative fuel engines in order to improve exhaust emissions and fuel consumption. They found that it is not possible to consistently ignite a gas mixture with more than 15% to 20% air surplus using conventional ignition systems. The ignition energy and power of such systems are not high enough to initiate combustion.

After years of thorough research, Nology Engineering has confirmed the possibility of igniting lean mixtures with a very short, high energy spark. The development of HotWires was based on these test results. HotWires are capable of igniting lean mixtures with up to 40% air surplus. Consequently, fuel consumption and exhaust emissions are drastically reduced without adversely affecting the operation of the engine. HotWires is the only ignition system that has a substantial influence on the combustion process. Independent test results show decreased fuel consumption, decrease of all harmful exhaust emissions and increased horsepower. HotWires solve the emission problem at the source.

Engineers have taken modern race cars to the cutting edge of technology in the search for more horsepower. Fuel systems have progressed from carburetors to fuel injections, exhaust manifolds made way to highly tuned exhaust headers, induction is aided by turbochargers or compressors and multi-valve design are standard. It seems that engineers have forgotten the ignition system as a source for more horsepower. Modern ignition systems have improved more in their reliability than in performance.

The HotWires high energy ignition system is revolutionary in design and characteristics and is extremely powerful. Independent tests confirm, HotWires increase horsepower. Unlike conventional ignition systems, HotWires discharge a very high energy spark within an ultra short pulse of only a few nanoseconds. This high energy discharge mode is maintained throughout the full rpm range. HotWires is the only ignition system that has a significant influence on the entire combustion cycle. HotWires enhance the flame front growth and decrease the cycle-to-cycle variation, resulting in a faster and more stabilized burn. This combustion enhancement results in more horsepower.

## Horsepower Test on Superflow Dyno

HotWires  
show an increase of  
8 horsepower on this  
Small Block Chevy

RPM	StockWires	HotWires	IncreaseHP
4500	305.7	308.3	2.6
5000	337.9	342.4	4.5
5500	351.4	359.2	7.8
5750	350.5	358.6	8.1

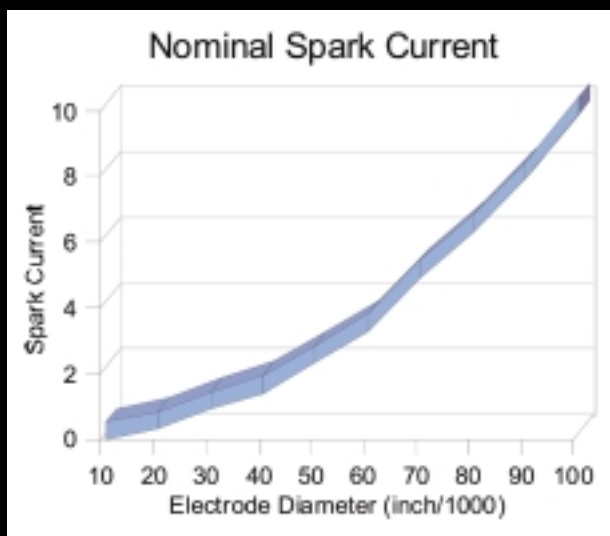
## A Better Spark Plug

Spark plugs are the subject of much controversy. In comparison to internal combustion engines and their management systems, spark plug design has hardly been improved. Malfunctions still occur, but they are not as noticeable anymore mainly because of improved ambient conditions. At least one of the three most important spark plug properties has to be sacrificed in order to increase or emphasize one of these characteristics: efficiency, durability and heatrange.

For high performance or racing applications, an efficient spark plug is needed. Such a spark plug operates optimally only within a narrow heatrange without any consideration for durability. This is not a good spark plug for everyday street use, as a wide heatrange is essential to assure good drive-ability under all temperature conditions. Heatrange latitude of standard low-cost spark plugs for passenger cars has improved, but with major trade-offs. They are designed to offer a wide heatrange only, without any consideration for efficiency. The ignition system has to compensate for low spark plug efficiency and wide spark plug gap caused by wear. Original equipment spark plugs offer a wide heatrange and high durability to increase spark plug change intervals. These are the least efficient spark plugs. In order to reduce wear, erosion resistant materials and suppressor resistors are used which considerably sacrifices spark plug efficiency. The correct relationship between efficiency, durability and heatrange is important and has to be considered over the entire life of the spark plug. A functional combination of these properties is possible and is only a matter of technology and materials used.

When reading spark plug advertisements one can get the impression that small diameter center electrodes, uniquely shaped electrodes or built-in resistors are best. Think again!

A **Resistor** is exactly what the word implies. When the spark crosses the point of resistance, much of



the spark energy is lost. A resistor is like an electronic obstacle and could be the cause for a weak spark. Due to manufacturing tolerances and lack of quality control, even non-resistor spark plugs often have a resistance of 10, 100 or even 1000 ohm. Always check spark plugs for resistance before use. Using spark plugs that have resistance due to manufacturing tolerances, internal damage or by design will weaken the spark, which could result in lost horsepower and poor fuel efficiency.



What about electrode shape? Spark plug manufacturers will tell you that a small diameter center electrode makes it easier for the spark to jump the electrode gap. This is true, but what they are not saying is that such a spark is also weaker, since it takes a lower voltage to jump the gap. A spark jumps the electrode gap when the voltage at the electrodes reaches the ionization point. Since the ionization point (voltage needed to jump the gap) is lower when a small diameter center electrode is utilized, spark voltage is also lower. Exactly what a performance-oriented consumer doesn't want. Also, a spark that tries to squeeze itself through a small diameter center electrode is slowed down and stretched out and, therefore, weakened even more. And finally, the electrical energy carrying ability is reduced when the electrode diameter is smaller. Small diameter or uniquely shaped electrodes could be beneficial if the ignition system is weak, but modern ignition systems are all powerful enough to supply the voltage needed to create a spark across the electrode gap of a conventional electrode design, even in high compression engines.

**Silverstone™** was especially designed for the increased demands of modern high performance engines and is the only spark plug that optimally incorporates all desirable properties. The most important decision when building spark plugs is what materials to use. Not the electrode shape. The more than 80-year-old original design is still the most successful and widely used. Silver is the best electrical and thermal conductor of any metal and, therefore, the best material for the center electrode. In managing the ever changing combustion chamber temperatures caused by different engine and load conditions, silver is unsurpassed. To prevent plug fouling, optimum operating temperature is reached shortly after start-up; yet under full throttle when things really start to get hot, heat is dissipated rapidly. Silver provides the widest heatrange latitude. As the best electrical conductor, silver assures that the spark encounters the least resistance and no spark energy is lost. Unlike conventional electrode materials, silver delivers even the most powerful spark without any energy loss and therefore guarantees combustion initiation. The solid silver, large diameter center electrode in **Silverstone™** increases spark carrying ability and with it spark power up to 137%. Silver is extremely resistant to erosion, guaranteeing a virtually unchanged electrode gap for the life of the spark plug. This greatly extends change intervals.

**Silverstone™** non-resistor spark plugs are guaranteed to be without internal resistance, making them first choice for the performance-oriented consumer. **Silverstone™** is the most efficient, durable and thermally adaptable spark plug available. Unlike other high performance spark plugs, **Silverstone™** is technologically unrestricted to any one application. Silver spark plugs outperform all other spark plugs and deliver the most powerful spark.

## Properties of Materials

Material	Thermal Conductivity W/(m·K)	Electrical Conductivity MS/m
Silver	407	66
Copper	384	57
Gold	310	45
Iridium	147	18
Platinum	70	10
Nickel	59	10



## Increasing the Performance of an Inductive Ignition System



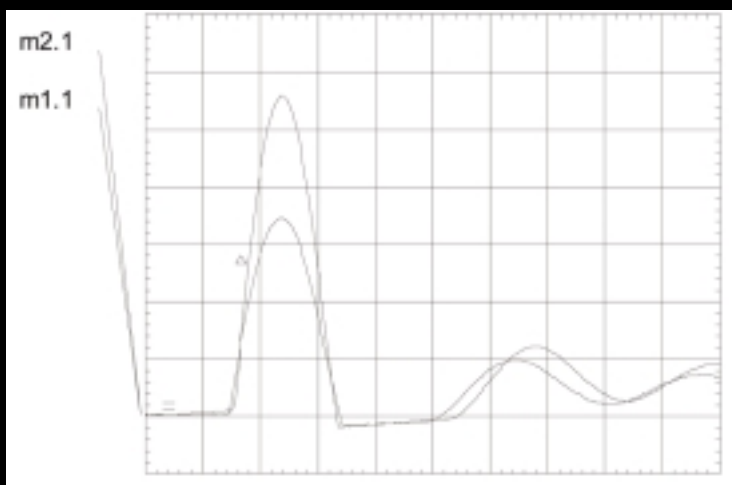
Trying to upgrade an ignition system can be confusing and expensive. Every coil and ignition system manufacturer claims that their products are the best and will give the biggest performance increase. Nology is no exception. But there is one important difference...Nology's **PowerCore™** ignition coil amplifier really delivers and because no additional electronic control unit or high performance ignition coil is necessary, it is the most economical way to step up the power of any electronic or points inductive ignition system. The **PowerCore™** ignition coil amplifier is so effective, simply connecting **PowerCore™** to the primary side of the ignition coil increases ignition coil energy output and available spark voltage by up to 50% without adversely effecting the coil's rpm limit.

Most performance and racing ignition coils increase only the theoretically available spark voltage or spark energy and sometimes only the coil's rpm limit, never all three. However, increasing a coil's theoretically available maximum spark voltage can actually hurt performance. A coil designed to generate a high spark voltage is generally very "slow", consequently, a high voltage ignition coil is generally not a high rpm coil. To generate a high secondary voltage, coil saturation time has to be increased, but since a longer saturation time is not available, considering the rpm modern engines rev and the fact that when not fully saturated a coil operates outside the range where most efficient, available spark voltage can actually be lower. Racing coils are designed to work with the short saturation time available at high engine rpm. That's why most high rpm racing coils feature a lower theoretically available spark voltage. This tradeoff is accepted because it is more important that a competition coil is capable of generating a spark at high engine speeds, even if such a spark is weak, than a more powerful spark that could only be generated up to a much lower rpm range.

In contrast, Nology's **PowerCore™** ignition coil amplifier always increases available spark voltage, spark energy and the rpm limit of the ignition coil. This never before available technology is truly revolutionary. By perfectly matching the inductance, oscillation frequency, resistance and magnetic field density of the **PowerCore™** to the ignition coil, the efficiency of the ignition coil is increased tremendously. Coil rise and saturation time is much shorter. This raises the coil's rpm limit substantially. Even though the saturation time is shorter, the theoretically available maximum spark voltage is much higher as a result of the coil's much increased primary voltage. The higher primary energy supplied by the **PowerCore™** coil

amplifier also increases the secondary energy (spark energy) considerably. This hotter, more powerful spark ignites every fuel/air mixture much quicker, more reliably and more efficiently. Therefore, increasing horsepower and torque whereas fuel consumption and emissions are decreased. **PowerCore™** is absolutely essential for high compression and/or high revving engines and all lean-burn applications.

"m1.1" shows voltage of a stock ignition and "m2.1" shows the same ignition system with the PowerCore connected. Peak voltage has increased 167 volts to 268 volts (60%). A similar increase can be measured for primary and secondary current!





## Choosing a High Performance Ignition Coil

Which coil would you rather have? One that generates the highest spark voltage, or one that generates the highest spark energy? If you said the highest spark energy, you are right. Here is why! How much voltage a coil can generate is no indication as to how high the spark voltage really is. The spark voltage can only go as high as is needed to jump the spark plug electrode gap, never higher. That means if the spark plug gap is wider or the compression higher, more voltage is required to jump the electrode gap. Close the electrode gap and the voltage will be lower. Leave the electrode gap the same but change the coil to a high voltage coil, and the spark voltage will be exactly the same. Most engines require from 8 K volts (steady speed highway cruising) to 25 K volts (hard acceleration). Rarely is there a requirement for more than 25 K volts. So why buy a coil that can generate 60 K volts? It is the energy that is important, not the voltage. Higher spark energy assures faster combustion and increased probability for combustion initiation. Energy, not voltage, ignites the fuel. There is another negative aspect to high voltage coils. In order to be able to generate a theoretical high spark voltage, the coils end up having a long saturation time, detrimental for high rpm applications.

The design of Nology's line of **ProFire™** ignition coils was based on that general principal. **ProFire™** coils deliver the highest possible spark energy and offer the fastest saturation time for high rpm engines. This is achieved by utilization of the most efficient turning ratio and laminated E-core material, and by choosing just the right amount of inductance. By using this high efficient laminated material for the E-core design, high magnetic field strength and energy can be generated while overall coil temperature stays low. This high energy gets transferred to the secondary side where the optimum turning ratio between the primary and secondary side of the coil guarantees maximum spark energy.

If you are looking for a high performance ignition coil that has a short rise time for high rpm applications and generates a spark that carries maximum energy, take a look at Nology's line of **ProFire™** ignition coils. Unlike most ignition coils, **ProFire™** coils are designed for specific applications. Two coils are available for points ignitions and two for electronic ignitions. There is one coil for medium-powered CDIs and then there is the M80 for high output racing CDIs. The M80 is considered by many to be the most powerful coil available.



## Magazine Editorials: What They Say

**Turbo:** "The 2.3 liter four cylinder pushes out 190 horses to the wheels with only minor modifications; upgraded air flow meter, Nology HotWires, a DTM lightened flywheel and DTM exhaust system. Factory horsepower is rated at 192 horses at the flywheel."

**Corvette Fever:** "The Nology ignition whipped up the big drums on the Dynojet to the tune of 11 more horsepower."

**Alfa Owners, Project 164:** "Upon starting the car with the newly installed Nology HotWires, there was a noticeable difference, even in just the cold idle performance - it seemed smoother and less laborious. Under partthrottle driving, the motor felt more willing to rev and in need of less throttle for the same amount of acceleration. "

**Drag Racing:** "For years I have been testing the NOLOGY Spark Plug Cables, the only cable that radically reprocessed the coil's output to the plug."

**Drag Racing Monthly:** "A moderately injected nitrous 350 delivered an extra 18 hp and a 500-inch ProStock style motor made between 8-40 hp more depending on where it was in the rpm band".

**Muscle Mustang & Fast Fords:** "After all the testing was completed we saw an average of six more horsepower in the usable rpm range."

**Turbo:** "To our surprise, 20-70 mph times were reduced by an average of three-tenths."

**Popular Hot Rodding:** "Firing the plugs through Nology HotWires, the spark intensity was dramatically increased."

**Trucking:** "These were previously back-to-back tested against three of the top brands of conventional competition plug cables and showed 7, 10 and 13 horsepower increase on what were nominally 175, 300 and 350 horsepower engines."

**Grassroots Motorsports:** "These products all worked well on our stock Honda Civic test vehicle. On 30-60 mph acceleration tests, the Nology equipped car showed an average of .28 seconds improvement over the stock setup."

**Super Chevy:** "The best torque increase amounted to 8 ft lbs, while peak power went up by 7.5 horsepower. The Nology HotWires appear to have the ability to step up a stock ignition to that of a race system..and a race system beyond that."

**European Car:** "Better low-end pull, better throttle response, better driveability and improved mileage all from a set of wires, plugs and ignition coil amplifier."

**Hot Rod Bikes:** "With peak power the best yet at 52.3 hp. More importantly, average power is a whopping 47.1 horsepower, compared to stock at 40.9 horsepower."

**Dirt Bike:** "Nology HotWires are one of the least expensive part of any kind that make a performance difference you can feel."

**Biker:** "It starts pulling right off idle and continues to over 100 mph. That's saying a lot, considering the big load I pack around. The first chance I get I'm gonna put the Crane Single Fire Hi 4 ignition system on board along with a set of Nology HotWires."

**Thunder Alley:** "Many riders I talked to are skeptical when you tell them they can get horsepower increases from something as mundane as plug wires. But the Nology HotWires do exactly that."

**American Iron Magazine:** "The results were amazing. Simply by replacing the spark plug wires our maximum horsepower climbed 11% from 47.0 to 52.3, and the torque jumped 8% from 58.8 ft-lb to 63.6."



**Sport Compact Car.** “The greatest increase in power was measured at the torque peak of 4600 rpm a difference of three hp was recorded. At 3200 rpm, a five lb-ft difference in torque was noted”.

**Fast Car.** “Even when tested with a high-output multi-spark ignition the Nology HotWires still added measurably to the test engines output. In this test (small block Chevy) torque improved 8 lb-ft, and peak power rose by 7.5 bhp”.

**High Performance Mopar.** “The Challenger launches pretty smoothly, only lifting the wheels 2-3 inches”

**Hot Boat.** “You can’t light a fire without a spark”.

**All Chevy.** “As for the wires, Nology’s HotWires line works like eight separate amplifiers”.

**Motoring.** “Power and torque outputs received an even bigger boost in the all critical midrange. This would translate into greater driveability, fuel economy and better overall acceleration”.

**Hot Rod.** “Full-throttle testing extracted an extra 7.3 horsepower and 7.8 ft-lbs of torque from the 320 hp engine”.

**The Truth About Weak Ignitions:** Also known as, “Do I really need to spend \$145 on spark plug wires?” “we replaced the stock plugs and wires with Nology HotWires and Beru Silverstone plugs. Sure enough, that combination produced the results that we had been expecting..”

## Testimonials

Just thought I would drop you a line to tell you we Won the AHDRA TopFuel national championship with your products Thanks — Steve Moore

I currently carry your HotWires with my business and I recently became extremely interested in trying them out on my 2000 Honda Civic. I currently have an air/fuel ratio gauge installed on my car and it seems to work very well. Well, I installed your wires and then tested them out. It seemed to me that the seat of the pants feel was greatly increased, it seemed as though my car required less effort to do the same task, which initially indicated a performance boost, then I began to monitor my air/fuel gauge and it indicated that at full throttle, the ratio was more into the stoichiometric range than it has ever been at full throttle. Usually the LED lights on the gauge would be fully into the rich side indicating an amount of usable gas still remained after combustion and now indicates that after the installation of your wires, I am getting a more complete burn of the usable gas and that tells me that the emissions should be lower now and the top end should be a little easier to win over.

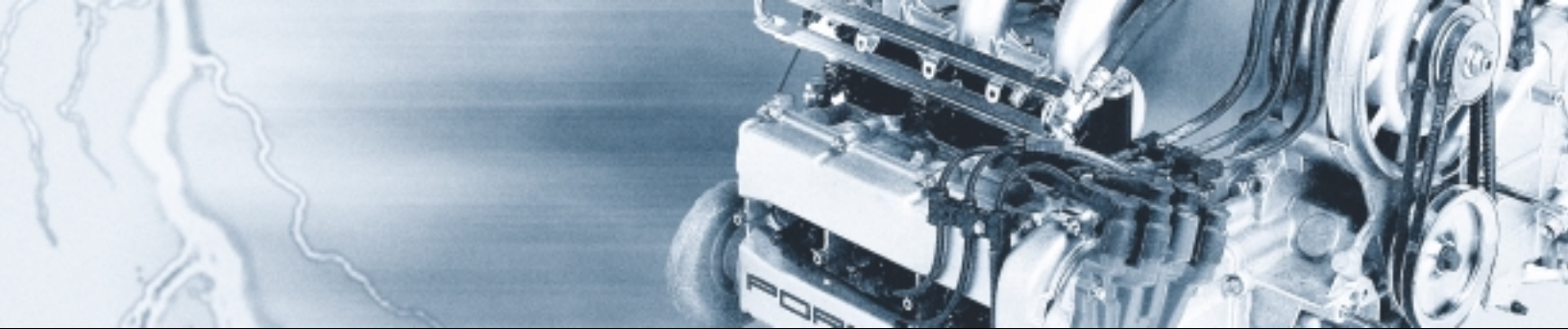
Just wanted to drop a line to you guys to tell you what a great product you have produced and how proud I am to sell such a quality product with my business.

Thanks a million!! – Scott Marshall, President/Sales SqueezePerformance.com, San Antonio, Texas

In light of the number of inquiries, I’ll post this here rather than individually... Apparently Nology was awaiting feedback from me on the first set of 164 wires before making the wires available to the masses. As long as they’ve waited this long, I suggested they wait a few days longer and I’ll give them some specific suggestions on reducing the length of some of the wires. Otherwise, the wires will be available for the V6 164 with a part# 011 026 011.

Incidentally, I can now verify that these wires can reduce emissions output. Due to an exhaust leak ahead of the cat, I was putting out hydrocarbon emissions of 350PPM with the stock wires; 173PPM immediately after swapping in (only) the HotWires this is still too high, but it did allow me to pass inspection until I get the exhaust leak fixed. – Brad Anesi





Definitely the most technologically advanced components in the industry!! I am thoroughly impressed with the appearance and function of your Hot Wires and ProFire Coil. I own a nitrous injected '93 5.0L Mustang that I drag race in spare time. Nology gets the job done! – Ryan Skaggs Meineke, Bartonsville, IL

I'm impressed with the approach but by adding a cap into the spark plug wire does this not create a delay in the spark as the charge builds up causing a delay in the timing. As far as the spark plugs go, please send the price for six for a 4.0 liter JEEP Cherokee 1988. – Mark Franklin

I bought a set of Nology wires about 2 months ago. The wires are fantastic and it feels as though I have MORE horsepower than some of my buddies who have installed aftermarket ignition systems. – Nology, still the best

I just read your ad in the December issue of Excellence. (with Excellence, you scour each issue three times: first time to look at the pictures, second time to read the ads, third time to read the articles).

I have been a customer of Engines Builder's Supply ever since they moved to Sparks, Nevada from California; and Jon (EBS owner) and I have become good friends since the move. Thus' it was wariness in an unknown product and trust in a friend that I spent the money for Nology wires, coil and Silverstone plugs only a couple months after installing a new O.E.M. wire set and coil on my '77 911S.

Simply put, I could not believe the difference that Nology wires and coil made in the performance of my engine. I could actually feel the difference before and after! I have approx. 15,000 miles on a major overhaul of my 2.7 liter engine. Aside from the usual wear items replaced, I changed to SC cams, RSR flywheel, RS pressure plate, SSI heat exchangers and Bursh exhaust. Jon supplied flow matched injectors for the FI system.

Following the overhaul I had a roughness that I traced to the ignition system but was unable to completely tune out. I ended up replacing the ignition wires and coil, but the problem still wasn't completely resolved. Then Jon became a distributor for Nology.

The very first time I fired the engine after installing your products I detected a change. I don't know how to explain it or why it occurs, but I can detect a "sharpness" or "snap" or "crack" in the exhaust note that it was not there before installing the Nology products. Due to out altitude in Reno, our normally aspirated engines run out of air long before they run out of cams! The Nology products substantially increases my useable power on the upper end of the rpm range.

Oh, and for me most important! As soon as I installed the Nology products the roughness that had been present since the rebuild was gone. The engine starts quicker in sub freezing temperature, and passes emissions tests without any adjustments from normal driving settings ( I run no emission controls on the engine). – Carl McLelland

Recently, I performed an ignition upgrade on my 1979 635Csi. Prior to the Nology tech session, I hadn't given an ignition upgrade any thought. But afterwards, I was sold on the idea. I decided to speak to several people regarding the products that are widely available. Most answers kept coming back to what most have used for years, an MSD system. Some of these are even programmable. The Nology representative had provided us with a fantastic amount of information that, in my opinion, and after weighing all the information that I had, titled the Nology ignition system in my favor. In addition to street use, the Nology system is successfully being used in racing applications where other old stand by systems, were once used. This was a big factor in my decision. Most of the answers I received regarding the MSD type ignition system dealt with the familiarity of the systems, not that it was necessarily any better, "It's just what everybody has used for so long," was what it seemed to boil down to. Everybody used to use bias ply tires once upon a time as well. Change can be good! Once in awhile we must embrace it.



**S**peed  
Thrills

## Testimonials...

Recently, I performed an ignition upgrade on my 1979 635Csi. Prior to the Nology tech session, I hadn't given an ignition upgrade any thought. But afterwards, I was sold on the idea. I decided to speak to several people regarding the products that are widely available. Most answers kept coming back to what most have used for years, an MSD system. Some of these are even programmable. The Nology representative had provided us with a fantastic amount of information that, in my opinion, and after weighing all the information that I had, titled the Nology ignition system in my favor. In addition to street use, the Nology system is successfully being used in racing applications where other old stand by systems, were once used. This was a big factor in my decision. Most of the answers I received regarding the MSD type ignition system dealt with the familiarity of the systems, not that it was necessarily any better, "It's just what everybody has used for so long," was what it seemed to boil down to. Everybody used to use bias ply tires once upon a time as well. Change can be good! Once in awhile we must embrace it.

So off to Nology I went. I purchased the wires, coil, and Silverstone spark plugs. Consensus opinion from whom I spoke to, said that for best results, I should definitely look at the upgrade as a system. I agreed. For my application, we had to custom cut the wires in their shop, no problem. They were nice enough to do it the same day. The result was an absolute increase in performance. I can feel the increase all through the RPM range. The car pulls much smoother, quicker, and to a higher RPM level than before. I figured having an older style ignition system updated to a performance system that I'd feel some difference, well, I felt a lot difference! They claim a 5-7% increase for application, about 10-15 stallions in my case, It sure feels that way. Later, I plan to re dyno the car to confirm my results. In addition, the exhaust note has a growl as well, as fuel is more thoroughly burned. As expected the engine does run cooler and mpg has improved. I drove to the S.F. Bay Area and back and used approximately 1/8 less gasoline than usual, that's about a 2 mpg improvement. I expect the emissions have improved as well.

I would suggest that anyone who is looking for additional performance, especially on the earlier sedans, coupes, and any '02, that you consider an upgrade to your current old style ignition system. Based on my experience, I would recommend the Nology system. See you in the rear view mirror. — Mark Robbins

Definitely the most technologically advanced components in the industry!! I am thoroughly impressed with the appearance and function. "Your wires are undoubtedly the best wires that I have seen to date. You guys have definitely come up with a real winner here. I can honestly say that this is a revolutionary step in ignition technology. Anyway, keep those brain cells working on even better stuff (if possible). Thank you for your time. P.S. If you have any catalogs lying around, we would appreciate a copy or two. Thanks again." — Casey Fayette, North Dakota

"Thank you very much for an excellent product. I recently installed your wires on my '87 Saab 900 SPG with 175,000 miles on it and I gained 50 to 90 mpg per tank. My question is regarding these wires for motorcycles. Is there the same performance improvement on a bike which I saw on my car. and what is the price for everything which is recommended. I have a '96 Harley-Davidson FLHTCI (the fuel injected model). I was also wondering if there is a price break which can be given if several units are purchased. I will soon be a member of the Antioch Motor Corps which contains 17 motorcycles. I think that if there is an equal performance increase on my bike and car that I would probably have several people interested. Thank you very much for your help." Gary Moore, Ohio

"You're website info is making me reconsider everything that I have "learned" about plugs & wires! I need NOLOGY!" Nixy J. Morales.