

# *Max~Zone 4th Generation*

***No Known Competitive Product***

***Has 4in1 Actions***

***In One Module At One Price***

***Like Max~Zone***

## ***Max~Zone 4in1 Actions***

***Action #1 desulfates*** and rejuvenates battery to 90% charge – to prolong battery strength and life,

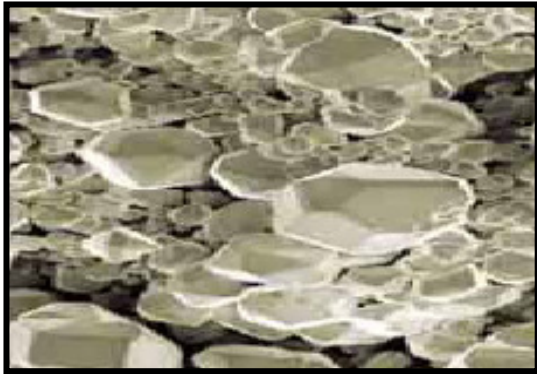
***Action #2 magnetizes*** and ionizes air-fuel mixture – to enhance pre~combustion,

***Action #3 multi-sparks*** ignition – to eliminate misfire,

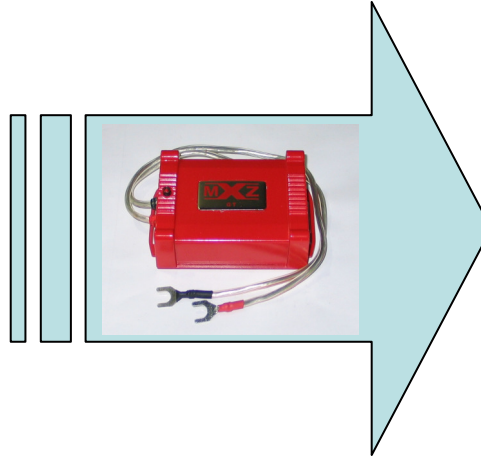
***Action #4 decarbonizes*** (removes carbon deposits) the interior surfaces of engine chambers, cylinders, injector nozzles, pistons, intake and exhaust valves, and spark plugs to clean surfaces – to support maximum clean combustion.

# Max~Zone Action #1 Desulfates

Battery charge drops to 60% or lower after sulfation of 6 months in the vehicle.



**Sulfation without Max-Zone**  
**12.24V = 1.185SG = 60% Charge**



**Desulfation with Max-Zone**  
**12.62V = 1.248SG = 90% Charge**

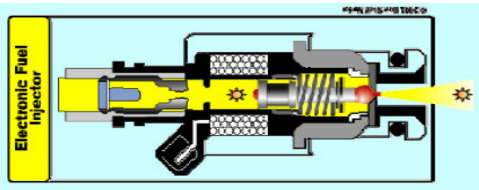
A 60% charged battery is continuously desulfated while driving at >2000 RPM with Max~Zone.  
 After few hours of driving its charge will be restored to 90%.

Lead sulfate (PbSO<sub>4</sub>) is created @ both electrode plates during discharging. In principle, during charging, 100% lead sulfate should be transformed to PbO<sub>2</sub>, Pb & H<sub>2</sub>SO<sub>4</sub> theoretically.  
 ✓ However, in real life, lead sulfate is left, crystallized, hardened for couple of days & coated on both electrode plates. This phenomena is called sulfation and it cannot be decomposed by charging via alternator.  
 ✓ This hard sulfate is non-conductive material and causes the reduction of battery capacity due to the reduction of electrode plates' area needed for the electro-chemical reaction.

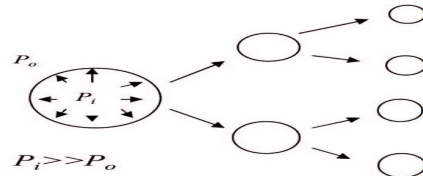
When a battery is supplying power to the car electrical systems, its plates will be sulfated and eventually lost its State-Of-Charge – battery dies.  
 When Max~Zone is installed to a matched alternator battery system, its Intelligent Fuzzy Pulser will desulfate the plates faster than the sulfation rate when the vehicle is running. A SOC 60% battery will be desulfated and rejuvenated to 90% to restore its voltage stabilizer and electrical filter capability and capacity

Battery State-Of-Charge Guide				
Condition	Strong			
State-Of-Charge %	100	90	80	70
Specific Gravity	1.265	1.248	1.228	1.207
Battery Voltage	12.73	12.62	12.50	12.37
Condition	Weak		Cannot Crank	
State-Of-Charge %	60	50	40	30
Specific Gravity	1.185	1.162	1.138	1.114
Battery Voltage	12.24	12.10	11.96	11.81

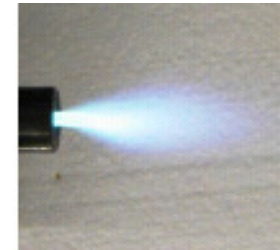
# Max~Zone Action #2 Magnetizes Ionizes



To turn on EFI 12V/4A power is applied for 5mS to 8mS



With Max~Zone fuel atomization is intensified



When EFI solenoid is energized at 4 amperes the coil generates a magnetic field. With Max~Zone this magnetic field is intensified to magnetize and ionize the passing fuel, similar to a quality magnetic fuelsaver (MFS).

Max~Zone EFI magnetizing action has a higher efficiency than MFS because its action is in the EFI, closest to the point of injection than MFS which is commonly installed “downline”, the magnetized fuel is degraded before it reaches the EFI.

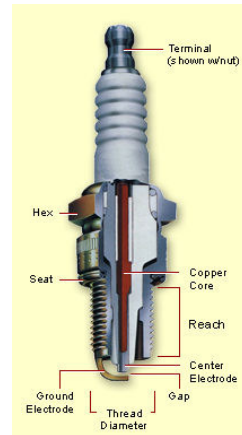
**Max~Zone Action #2**, pre-conditioned the fuel for Action #3 & #4, plasmatic ignition and deCarbonization.

# Max~Zone Action #3 Multi-Sparks

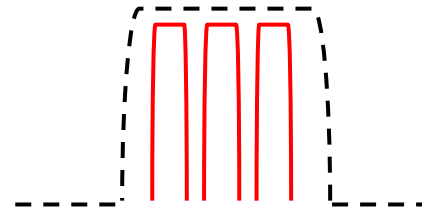
Platinum Center  
Electrode



Conventional



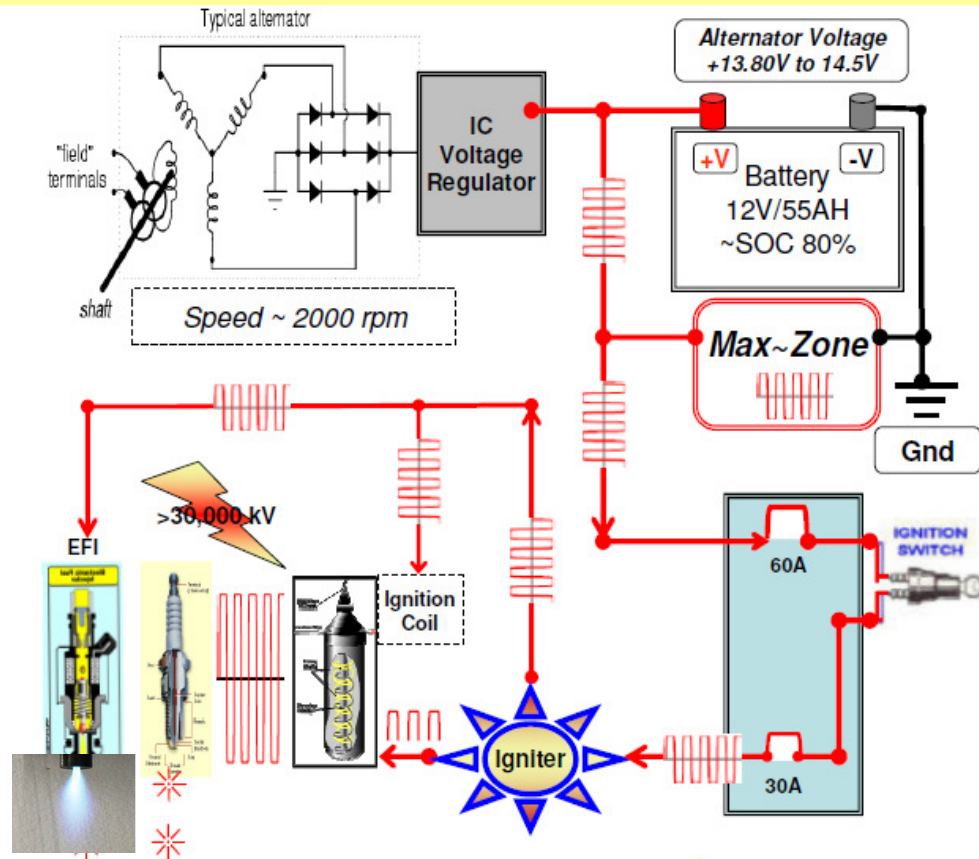
*one burst of high tension spark*



*In a conventional petrol engine, the spark plug releases one burst of high tension spark per combustion. Due to the complexities of the ignition system, it is not unusual to end up with an unsuccessful spark during the critical combustion cycle.*

**Action #3** with its intelligent pulse technology produces a multiple sparks in quick succession within the same millisecond as a single spark. This multiple spark ensures a successful ignition every time resulting in complete combustion leaving little unburned hydrocarbon (UHC) which is energy loss of up to 10%.

# Max~Zone Action #4 DeCarbonizes



Plasmatic Ignition

Max~Zone causes ignition to be plasmatic that decarbonizes pistons, spark plugs, intake and exhaust valves, injector nozzles, and interior surfaces of the combustion chambers.

## How Plasma Cleaning Works

Plasma works by converting gas atoms into ions and radicals. High frequency magnetic fields oscillate gas atoms into a frenzy, both breaking bonds and producing a luminescent glow. The ions and radicals then do all the work. Oxygen ions and radicals are very effective cleaning agents. The cleaning process involves the oxygen gas ions and radicals reacting with the hydrocarbons inside the chambers.

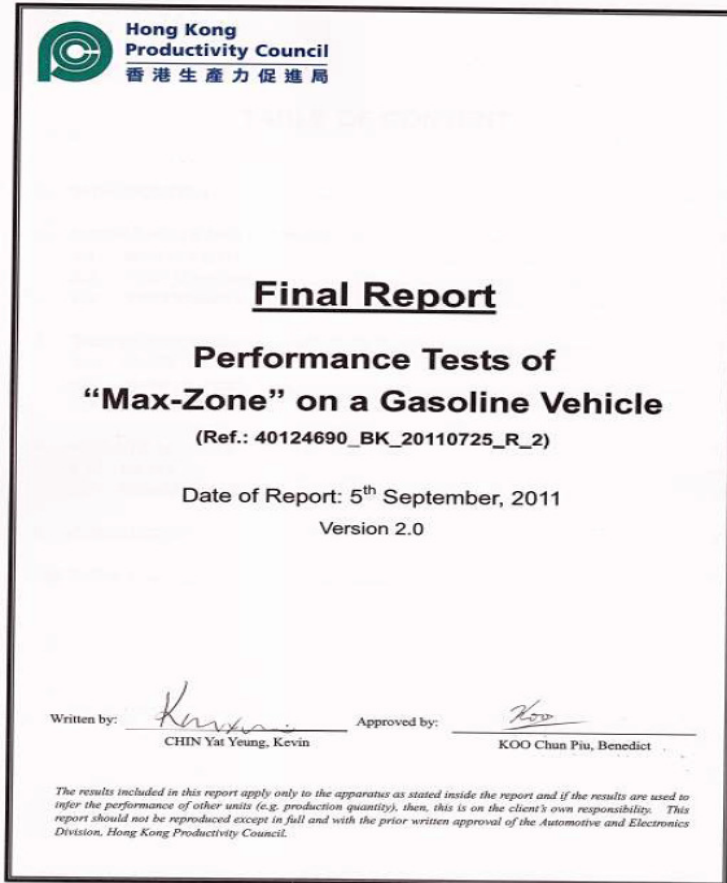
These reactions yield **H<sub>2</sub>O**, **CO**, and **CO<sub>2</sub>** that are then removed by the exhaust cycles.

An oxygen plasma is highly effective in removing hydrocarbon contamination. The disassociated oxygen created by the plasma chemically reacts with the hydrocarbon material present on the object being processed, converting it to CO, CO<sub>2</sub>, and H<sub>2</sub>O, which are evacuated by the vacuum system.

Extract from Mat. Res. Soc. Symp. Proc. Vol. 523 Q 1998 Materials Research Society

# Max~Zone Action #4 Plasma DeCarbonizes

Mr. Loh Pong Tuan, Managing Director of Equipment Engineering Pte. Ltd, Singapore (hereinafter named as “the Company”) invited HKPC (hereinafter named as “the Council”) to submit a proposal for evaluating their product – Max-Zone (hereinafter named as “the Test Sample”).



**Hong Kong Productivity Council with Equipment Engineering Pte Ltd engaged Environmental Technology Consultants HK Ltd to conduct tests for emission, fuel economy, engine noises and decarbonization in Toyota WISH with Max~Zone over a 6 day period. Next page shows the decarbonization result.**

# Max~Zone Action #4 Plasma DeCarbonizes

## Toyota WISH DeCarbonization Result

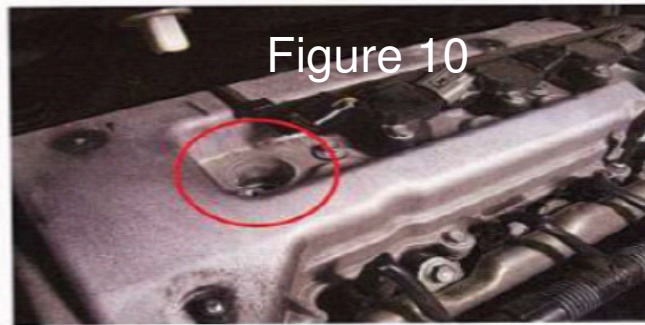


Fig 10. Entry for endoscope

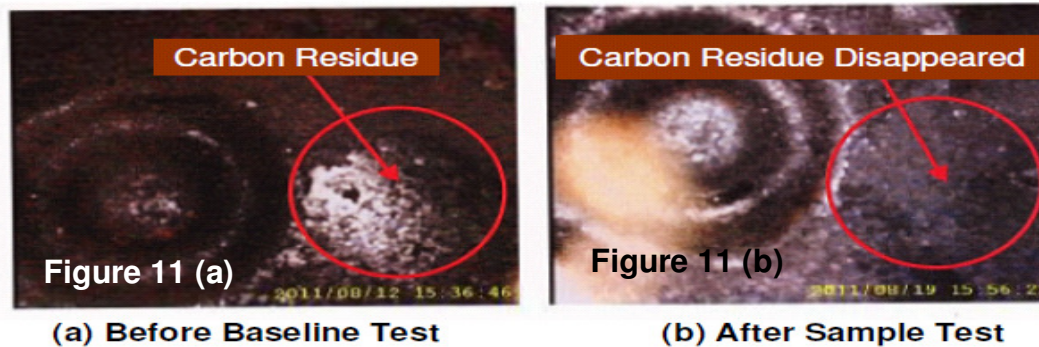


Figure 10 and Figure 11 shows the location for endoscopic inspection inside an engine cylinder of the Test Vehicle and the condition inside the cylinder respectively. It could be observed that the carbon residues were removed after applying the Test Sample.

Figure 11 Comparison of the Condition inside an Engine Cylinder of the Test Vehicle between (a) Before Baseline Test and (b) After Sample Test

Figure 11, Fig (a) photo was taken on 2011/08/12 without Max~Zone Fig (b) was taken on 2011/08/19 after Max~Zone

# ***Emission & Decarbonization Reports***

***Max~Zone Hong Kong Business Associate***

***Mercedes Benz S300 3 Years Old***

## ***BOSCH Emission Test***

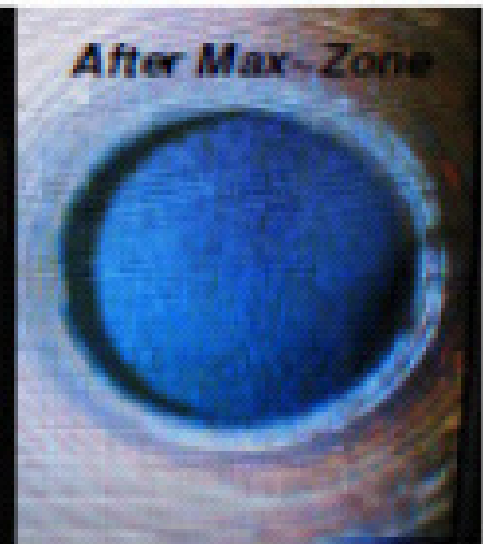


*BOSCH ETT 855 /861*

## ***Endoscope Piston Inspection***



*Pentax Endoscope  
through spark plug socket*



***Mercedes S300 DeCarbonized Within 45 Minutes At 2000 RPM***

*Report in next page*

# **Max~Zone~GTS-4 Emission & Decarbonization Report**

## **Mercedes Benz S300 3 Years Old**

*This is an extract from the finding on the testing of **MMB**. Objective of the test is to prove beyond reasonable doubt on the numerous claim made by the product supplier who incidentally is a MB independent distributor in Hong Kong. Test is twofold and sufficient to expand into many sub-categories for further investigation. It must be read in conjunction with the attachments.*

*Emission: Test was carried with a Bosch ETT 855 / 861, the test was carried on 06.11.2010 at 60 minutes interval. At 11.31 hr tests was carried out on tailpipe emission without MMB. With engine shut down, product MMB was installed and engine restarted to run continuously for 45 minutes at 2000 rpm. Thereafter tailpipe emission was taken again @12.33 hr.*

*De-carbonization: An endoscope was used to take picture inside the combustion chamber thru the spark plug hole. One was taken before the commencement of test (**w/o MMB**) and the other taken after the test (**with MMB**). Our initial scepticism that a small device can remove carbon accumulation in the combustion chamber has proven us wrong.*

### **1) Emission**

- CO (Carbon Monoxide) reduce from 80ppm to 40ppm, a 50% reduction.*
- CO2 (Carbon Dioxide) increase from 149K to 150K ppm, indicate effective combustion and in today's measurement criteria considered good by USEPA.*
- O2 (Oxygen) reduce from 1700ppm to 600ppm, indicate effective combustion, 64,7% reduction.*
- HC (Hydrocarbon) reduce from 8ppm to 2ppm, again indicate effective combustion, 75% reduction.*
- Lambda down from 1.007 to 1.003 which is very close to ideal range*

### **2) De-carbonization:**

*The above photos are evidence of carbon removal from the combustion chamber after the installation of MZ~GTS-4.*

### **Report Summary**

*It is quite clear from the test that MZ~GTS-4 is capable of enhancing the engine's performances as stated by its supplier. From the emission test result it can be seen that the device has been able to bring the engine to a near perfect combustion which equate thus:*

*Fuel (hydrocarbons) + Air (Oxygen + Nitrogen) \*Combustion\* = CO2 + Water + Nitrogen as against a Typical Engine Combustion:*

*Fuel (hydrocarbon) + Air (oxygen and Nitrogen) \*Combustion\* = Unburned hydrocarbon + Nitrogen Oxides + Carbon Monoxide + Carbon Dioxide + Water*

*The other most convincing aspect of the test is the Lambda drop from 1.007 to 1.003 which is close to perfect engine combustion of stoichiometric 1. All of these reading indicate that with the installation of MMB, one can safely confirm with a certain amount of certainty that the improvement is quite obvious and warrant further investigation.*

**MMB IS EQUIVALENT TO MAX~ZONE**