

Let's reduce car pollution
by **CYCLONE** for good
environment

Tornado Power
CYCLONE

Patents in Korea, USA, China, Germany, Russia and Australia

**PLASMA
PLUG**

- 1990. 11. Won the Prize of Energy Saving Organ in the National Energy Saving Promotion Exhibition from the President of Korea Energy Management Corporation
- 1990 Patented CYCLONE, the vortex device for internal combustion engine in U.S.
- 1991 Patented in Korea (patented in 22 countries including Italy, Germany, U.K., Australia, Canada, China and USSR)
- 1992 Won the 3rd Prize in the International Invention Exhibition, Geneva, Swiss and the 2nd Prize in the Pittsburg Invention Exhibition, U.S.
- 1992. 06. Started exporting to Americas and Southeast Asia(including Singapore)
- 1993 Won the Prize of Manufacturing Industry Competitiveness (Minister of Commerce & Industry)
- 1993 Won the First Prize in the Small & Medium Business Award (Minister of Commerce & Industry)
- 1997. 10. Won the First Prize in Kyunghyang Electric Energy Award(Minister of Department of Trade and Industry)
- 1997 Won the Silver Prize in the Korea Patent Technology Exhibition
- 1998 Patented Plasma Spark Plug in Korea and Japan
- 1999. 05. Started exporting to Japan and won the official commendation on Invention Day
- 2000. 08. Awarded for Technical Innovation of Small & Midsize Business
- 2001. 11. Awarded for Energy Saving
- 2001 Acquired ISO 9001 Certificate

It's a miracle!
**CYCLONE
& PLASMA PLUG**

More Power
Fuel Savings
Less Noise
Less Pollution

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KIDC
www.cyclone2.com

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Company History

- 1990 Established KIDC(Korea Industrial Design Co.)
- 1990 Won a government prize at Korea Energy Saving Promotion Festival.
- 1990 Acquired USA patent for CYCLONE.
- 1991 Acquired Korea patent, at present registered in Italy, Germany, UK, Australia, Canada, China, Mexico, Russia, etc. 22 countries.
- 1992 won a bronze medal at Geneva and a silver medal at Pittsburgh Invention Show for CYCLONE.
- 1992 Began to export to America and South East Asia including Singapore.
- 1993 Won a silver medal at Nurnberg Invention Show(CYCLONE and Plasma spark plug)
- 1993 Won a government prize for Competitive and Improvement of Enterprise.
- 1997 CYCLONE was sold to US Army in Korea, after their test for two years.
- 1997 Won a government prize for Energy Saving, sponsored by Kyunghyang Newspaper Co.
- 1998 Won a silver medal at competition of inventions.
- 1999 Granted a letter of commendation for commemoration day of the invention day
- 2000. 8 Granted a letter of commendation for technological inventions of minor enterprises.
- 2000.11 Granted a letter of commendation for Energy savings.
- 2001 Granted the certificate of registration ISO 9001

Personal history of president Kim Sei Young.

- 1970 - 1978) Studied Metallurgy and Painting in Yonsei Univ.
- 1984 - 1987) Studied Industrial Design in Hong-ik post-graduate School.
- 1978 - 1987) Worked at the Design Dept. in Tech-Center of Kia Motors Co.
- 1988 - 1989) LECTURED at the Induk Tech. college and Kyunghnam Univ. for Industrial Design.
- 1990 - Present) President of KIDC(Korea Industrial Design Co.). A member of SAE, Korea and USA



Who needs it? What are the benefits?

Increased Mileage, Quicker Starting, Stable Idling,
Reduced Noise, More Power Output, Longer Engine Life

Let's reduce car pollution by CYCLONE for good environment

All kind of internal combustion engine , gasoline, diesel, LPG, need more complete burn, for better environment. Those environment problems [world warm-up, destroy ozon layer, sars] are all from car pollution and those dangers will severe more.

Not only that engine fire, fast acceleration, unable to stop by braking can be happen at carbon deposited engine, so pertinent injection of fuel also strongly recommended.

Also I strongly suggest every engine should fix CYCLONE-swirling device for complete burning, reduction of pollution, cleaning deposit carbon, etc. 20 good effects.

- ① Warming up reason: Sun ray hit small dust from car pollution first and heated nearby air is global warming up, people say CO2 is the reason but I feel that is not so true.
- ② The north and south pole ozon layer has hole and more bigger, because of CO from one of car harmful gas, people in fault says freon gas is the reason of ozon hole.
- ③ Every year there're more and more grey cloud increasing upon the sky and hide sunshine and smoke are more and more seriously in town and country side.
- ④ Some car manufacturer don't feel any responsibility for pollution, how to dare design & sell intake air resistant product, leading loss power & more fuel consumption, less economic.

- ⑤ Carbon deposits turns to red hot spots in combustion chamber will ignite fuel with tremendous power can't resist rush in with normal brake.
- ⑥ Those unexpected car dash can happen at any kind of car, gasoline, diesel, LPG, manual, auto transmission, turbo, intercooler, new and old.
- ⑦ Swirling intake air device CYCLONE, patented world wide, has 20 good function of complete burn, mixture better with air and fuel, fast burn, clean carbon deposit, reduce knocking, improve brake because increased intake vacuum, can be fix multiple for better function of engine.
- ⑧ Swirling device is start to fix after airflow sensor if it exist, normally from the outlet of air filter, multiple fix at intake and exhaust pipe also effective because it has pushing air power and improve swirling air.
- ⑨ CYCLONE can fix all kind of engine.



CYCLONE MEET'S USA, EPA MEMORANDUM 1-A STANDARDS

You'll be pleased with CYCLONE's performance, CYCLONE is designed to protect the environment.

With total commitment to the planet's natural resources and ecology, all of us at CYCLONES are dedicated to doing our part in reducing pollution and giving our world a safer and cleaner environment in which to live.

20 EFFECTS

Fuel Savings

CYCLONE's advanced air-flow dynamics allow near complete combustion, thereby achieving maximum fuel efficiency

Less Pollution

CYCLONE significantly increases the flame propagation speed, While greatly improving the engine's efficiency, minimizing CO2 levels and reducing air pollution.

More Power

CYCLONE creates a swirling, fast-burn effect in the combustion chamber. The fine vapor fuel particles allow near-complete combustion, maximizing engine power output and virtually eliminating engine knocking.

More Stable Engine Power

CYCLONE produces uniform engine power for each cylinder and piston during combustion. This consistent force eliminates abnormal engine noise and vibration, resulting in smoother operation and longer engine life.

Extended Engine Life

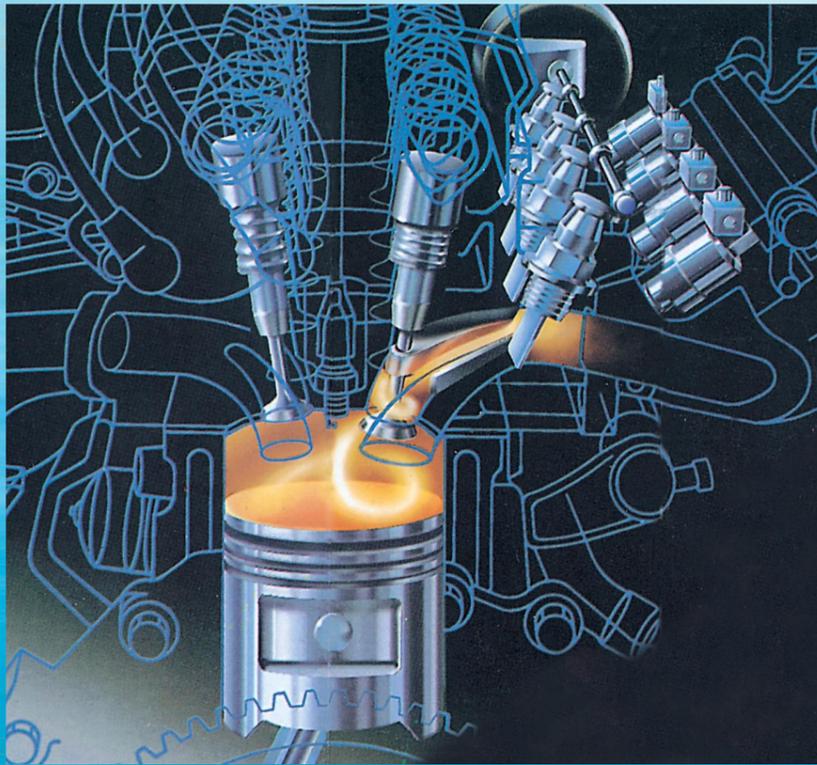
CYCLONE cleans the carbon in the combustion chamber, preventing unburned fuel accumulation or carbon build-up. It eliminates knocking, pre-ignition and dieseling, thereby extending the life of the engine.

Improved Braking Power

With CYCLONE, braking power is improved by the increased negative pressure created within the intake manifold.

Overall Engine Performance

CYCLONE improves engine starts in winter, and provides smoother running in summer when the air conditioner is on.



What impact will CYCLONE have?
CYCLONE WILL SUBSTANTIALLY REDUCE POLLUTION

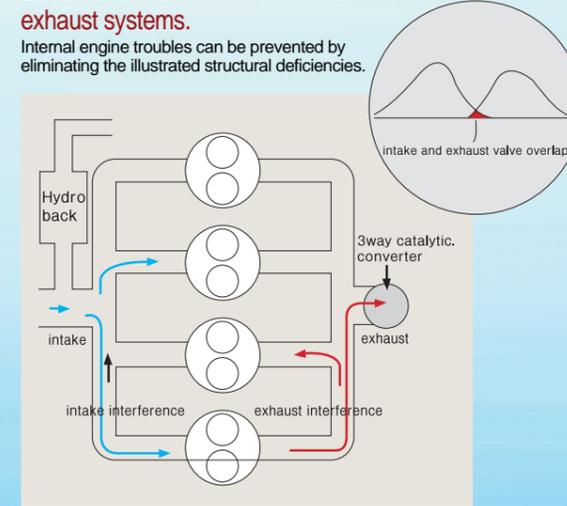
It is well known that the transportation sector is responsible for at least 35% of atmospheric pollutants in the form of volatile organic compounds such as hydrocarbon(hc), carbonmonoxide (co) and nitrous oxide (nox), which are emitted by the internal combustion engine. A 30% reduction of diesel take-out by CYCLONE will contribute to a cleaner environment.

What impact does CYCLONE have?
CYCLONE CONTRIBUTES TO ENVIRONMENTAL PRESERVATION

Korea Industrial Design, and its world-wide organization, is dedicated to protecting the environment. With the cooperation of the Green Party of Korea and other environmental advocates, we'll work to fulfill that commitment. CYCLONE is part of that solution.

Elimination of Interference of intake and exhaust systems.

Internal engine troubles can be prevented by eliminating the illustrated structural deficiencies.



Smoke Emission Comparison

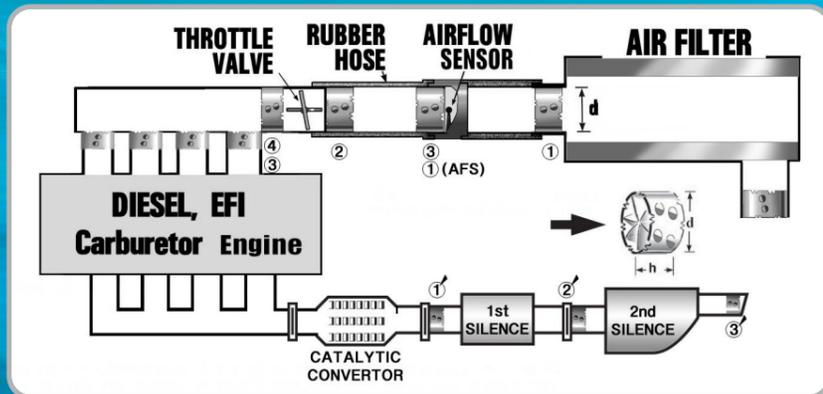
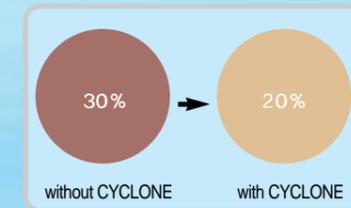
Cyclone's fast-burn and cleansing effect on the combustion system is a direct result of near-complete combustion, which immediately minimizes smoke emission.

It reduces smoke drastically



Smoke test on diesel powered mini-van

Spark plug flame comparison



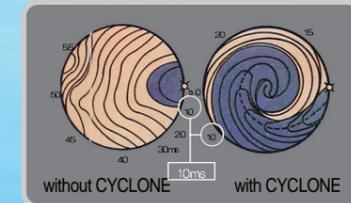
INSTALLATION GUIDE

- The first CYCLONE is mounted from the entrance of air filter and if there is air flow sensor, it may be mounted behind the sensor.
- In case of turbo or intercooler vehicle, it is mounted behind turbo or intercooler while in case CYCLONE is additionally mounted on, it may be mounted behind air filter.

Water and Ink Mixing Test CYCLONE'S Effectiveness



Combustion difference in combustion chamber



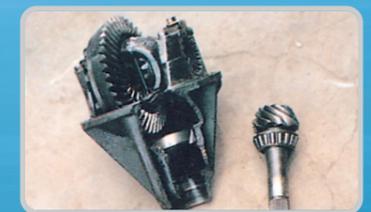
CYCLONE eliminates carbon deposits on intake valves in an efi engine



Cars without Cyclone find carbon deposits on intake valves in an efi engine, in addition to other apparent adverse conditions. When carbon accumulates on the intake valve in a fuel-injection system, engine stalling and hesitation occurs, which may lead to valves cracking.

In conventional engines, constant vibration can result in serious damage to the power transmission system.

According to Dr. J.S.Choi of Yonsei University, all materials deteriorate as a result of repeated impact.



Burned pistons and rings resulting from carbon deposit and knock caused by incomplete combustion.

CYCLONE Can prevents these kinds of problemes.

TBI/Carburetor type



Install Cyclone right behind the air cleaner or air-flow sensor, directing the arrow on the label toward the engine. Elimination of problems with the intake and exhaust systems. Internal engine difficulties can be prevented by eliminating the illustrated structural deficiencies. The effectiveness of the Cyclone has been proven by public test authority.

How to Install the CYCLONE



NOW, AFTER YEARS OF RESEARCH AND ENGINEERING, YOU CAN TAKE ADVANTAGE OF CYCLONE'S ADVANCED TECHNOLOGY.



It's worth **20** times the price

Improved mileage

With CYCLONE you travel further on less fuel.

CYCLONE'S swirling effect makes fuel particles finer and creates a near-complete, rapid burn, increasing engine power and decreasing knocking and pinging.

Emission Reduction

CYCLONE significantly reduces air pollution

The swirling air/fuel mixture, when forced into the combustion chamber by CYCLONE, achieves up to 85% combustion, whereas conventional engines only achieve approximately 15%

Boosts power output

CYCLONE minimizes the restriction of air flow gathers fuel to the center of the stream, then rapidly moves it to the combustion chamber, which prevents it from adhering to the wall of the intake system. The swirling, fast-burn, near-complete combustion increases power output and decreases knocking.

Decreased Engine Noise

As the fuel combusts, CYCLONE delivers the same power from each cylinder, which reduces vibration, as well as piston slaps and scuffs, and leads to stable engine performance. This uniform force reduces noise and prevents abnormal abrasion.

A Product of Incalculable Value

The CYCLONE air flow device is one of those rare products whose whole is really greater than the sum of its parts. Overall value can only be measured by the total of its contribution to the owner, driver, society and a cleaner environment.

Prolongs Life and Function of Converters

A 3-way catalyst, for reducing pollution by unleaded cars, loses at least 5% of engine power through exhaust resistance. CYCLONE eliminates this, with its cleansing ability.

Elimination of Injection Problem

When the fuel is not totally gasified, it can result in carbon deposits and many other harmful effects. Blow-by gas adhering to the throttle valves can also cause engine stall and in some cases, complete engine stoppage. CYCLONE's carbon cleaning effect virtually eliminates all these problems.

Effect on cars equipped with automatic transmissions

CYCLONE increases the overall acceleration power and mileage, as shown in the increase from 7.5km/1 to 9.5km/1 on a (1.5L)LeMans TBI test car.

Available in a Wide-Range of Models

CYCLONE is available in a wide-range of models, to fit passenger cars, light and heavy-duty trucks, buses, marine vessels, and heavy equipment. CYCLONE works equally well with gasoline, diesel, natural gas or propane powered vehicles.

Consumer Reports

►By : Peter J Chang:San Diego, CA 92/27
Vehicle : 1989 Ford Aerostar Van

1. CYCLONE gives my car around 10% fuel savings and more power
2. LGM(local gas mileage) increased from 17miles/gal to 19-20 miles/gal

►By : Mr James Kwon: La Crescena California
Vehicle : 1987 Nissan Sentra 4WD

- HatchBack 4/1.6L
1. Improvement in gas mileage from 30 to 35MPG.
 2. Feeling that something is pushing from behind when driving uphill.
 3. Engine runs quietly.
 4. No more loss of power with A/C on.

►By : New Mans Tour Bus Company, New Zealand
Vehicle : 1900 Volvo Turbo Diesel 11,000cc

1. Fuel savings of 12-15%
2. The engine runs smoothly with more power.

►By : Rick Christle : Volkswagen-Subaru Service Manager
Vehicle : 1992 Chevy 4WD V-8

1. Mileage increased from 12.1 MPG to 16.2 MPG
2. Improvement in idling quality and in tailpipe emissions

►Hyundai : Engine loud noise occurred at 130km/h was (Santamo 2.0EFI, Gasoline, M/T) disappeared and an accelerator is smoothly operated even at the 5th gear after installation of two CYCLONE.

►Hyundai After install 2 CYCLONE was changed(Grandeur 3.0MPI, Auto T/M) 6Km/L - 10Km/L

►Kia (Sportage) : After install two CYCLONE next to the turbo(Diesel, Turbo Intercooler,M/T) intercooler, 5th gear can be used even at 40km/h(previously at 80km/h) and vibrating noise is reduced and fuel consumption is changed from 12km/l to 14km/l.

►Kia (Pride) : Maximum speed is changed from 115km/h(1.3carburetor, used model,M/T) to 145km/h. Noise is reduced & power increased.

►Daewoo : After install 3 cyclones, 5th gear can be used (New Prince 1.8L, MPI, M/T) at 1200rpm (previously 2500rpm)and milleage change to 15km/L, from 10km/L.

►Honda After install 6 Cyclone, Max speed was (Civic 1.6 DOHC M/T) changed 170km/H - 210km/H. Powerful and Noise down.

Effectiveness of the CYCLONE has been proven by public test authority.

Results of engine dyno test, 1987

BY : Korea National Industrial Testing Institute

ITEM : Gasoline and Diesel Engines

RESULTS :

- (a) 20% reduction of CO gas emissions while idling
- (b) 7%~8% increase in power output with 50% load

Results of interior noise test, 1991

BY : Samhwa Environmental Co.

ITEM : Diesel Engine

RESULTS :

- (a) 3-5dB decrease While idling
- (b) 80% more stable at 80Km/h

National Industrial Technology Institute engine dynamo test(1991)

In state of 25% open Throttle

valve(2,000~3,000 rpm)

Power increased by 10%

Fuel Savings 13%

20TH International Exhibition of Inventions New-Techniques &Products of Geneva(1992)

→ Bronze Prize Awarded.

Opel Vectra 2.0i MPI. Autobahn ROAD TEST Fuel

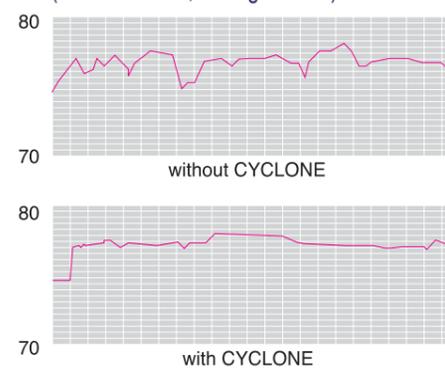
Saving 20%

California Environmental Engineering 92.10 With Cruise control(55~60mi/h)

• Improved Fuel Savings

Test Vehicles	FE Baseline Ave	FEW/CYCLONE Ave	%Change
86 Nissan maxima V6/3.0l	25.34 MPG	31.44MPG	+24%
85 Oldsmobile 98 V6/3.0l	27.53 MPG	33.64 MPG	+22%

Interior noise comparison on Besta (Diesel mini van, Driving 80Km/h) TEST No.5



CEE (California Environmental Engineering) '94. 2 Test Vehicle:Ford Taurus MPI '93

	City Mode			Highway Mode		
	HC	CO	MOx	HC	CO	NOx
Baseline	.012	.381	.080	.019	.262	.101
W/CYCLONE	-.0545	-.248	-.068	-.003	-.201	-.052
Change(%)	-105.5	-34.9	-15	-84	-23	-48

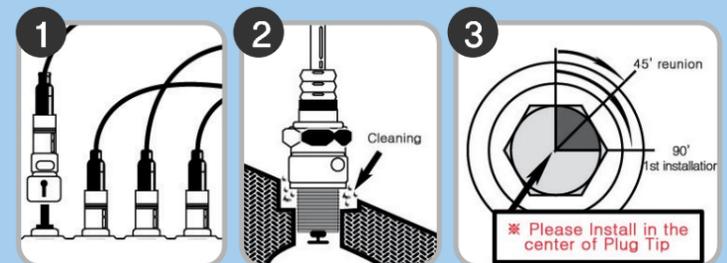
PLASMA SPARK PLUG & INSTALLATION GUIDE

Development Background, Structure and Principles - Unlike ordinary plug with lifespan of 20,000 ~ 30,000km, it proudly features longer life, high power, low fuel consumption and low pollution. For the development objective, it emits the large flame of panel electrode, prevents any misfire and shows quick flaming.

- Features - high power, low fuel consumption, longer life and low noise
- Applicable Vehicles - Gasoline and LPG engines
- How to set up - First of all, remove impurities around plug-hole and attach the included magnet to a plug-wrench in order to prevent the plug electrode interval from being transformed due to fall. Then, insert it by turning with your hands so that a screw thread is correctly screwed in accordance with the center of plug-hole and finally, rotate a new product at an angle of 90 degrees and an used product at about 30 degrees when turning it by using the plug wrench so that heat would be transmitted well with engine head plug hole and plug gasket closely stuck each other, avoiding overheat form plug and abnormal engine operation.

Note that in case attaching/detaching a plug, the plug wrench should be erected to protect ceramics from damages.

Caution - Accumulated carbons from incomplete consumption within a combustion chamber or excessive injection may cause pre-ignition or knocking, which may result in melting or damaging parts in a combustion chamber and impulse sound wave also damages or melt down parts of a combustion chamber. At the moment, it will be very useful recommendation to, in case of black exhaust pipe, install Cyclone, which is with functions of engine maintenance and carbon elimination, and to install plasma spark plug.



Test Data

- Tiburon 6,000 rpm 121.8hp -> 130.1hp UP : 6.8 % UP (99' 12 Test of the Motor Magazine Spark Plug)
- The average life of the general plug 20,000km SPARK PLUG improves to about 60,000km

Consumer Reports

- Rezzo (LPG) : After using Cyclone, acceleration was significantly improved and the fuel consumption ratio increased from 8km to 9.5km/l. It was shown that driving after Plasma Spark Plug was added with 3 inlets and 3 outlet ducts added as the air-conditioner was turned on consumed the same amount of fuel (from Lee Gi-chan from Health Food Company, Ildong Natural Co.,Ltd)
- Carens (LPG) : With 2 Cyclones, the performance was significantly improved. In addition, with Plasma Spark Plug, it showed the improved mobility with 10% fuel saving(from Kim Bo-hyeon, Team manager of [Monthly Option]).
- Elantra (sohc) : With 2 Cyclones equipped, the automobile showed improved fuel consumption ratio. After then, Plasma Spark Plug increased the power of Elantra.
- Santamo (LPG) : Mobility and noise have been improved thanks to 2 Cyclones and Plasma Spark Plug.
- I've drive 99' Porter truck about 140,000km and some time ago, I've used Cyclone 2 inlet ducts and 1 outlet duct one by one. Since then, I've experienced silence and improved power, from which I could pass the vehicle's exhaust inspection. For my backup car, Lanos, I've used Cyclone 2 inlets and 1 outlet and Plasma Spark Plug and I'm still satisfied with them(from Ildong Stan).