To solve global environmental problems

JVCS

(Super Clean Engine)

Jet Vacuum Chamber System

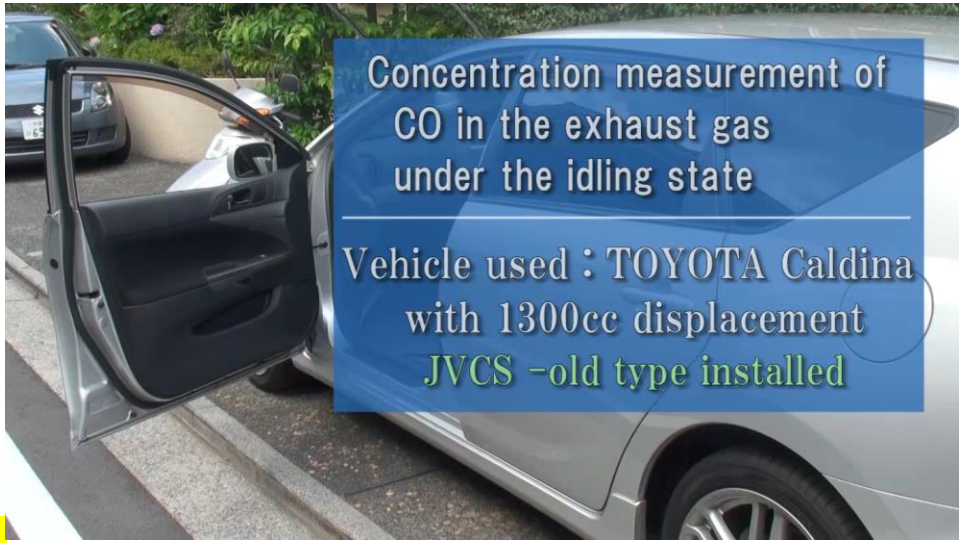
- Anti-air pollution exhaust gas system
- Achievement of low fuel consumption
- Engine power enhancement

JVCS creates newly the fourth engine！

EFTec Corporation (Earth Future Technology)

Due to the extreme reduction of CO by the installation of JVCS, small birds are safe.

This bird cage was placed at the position of 15cm distance from the JVCS jet port during the experiment for 15 minutes.



One month after JVCS was installed

（Numerical value of the CO further goes down）

One week after JVCS was installed

Around 20ppm （Around 0.002%）

● Completely harmless clean air for the human body and the creatures in nature

Effect of JVCS

- Black smoke and PM2.5 to almost zero numerical value
- CO・HC・NOX・SOX to almost zero numerical value
- Contribute to solving theglobal warming problem by CO_2 reduction

- Engine power is dramatically increased by perfect combustion

  * Acceleration in starting or uphill is powerful and smooth

- Engine is stable at low temperature and the service life is improved

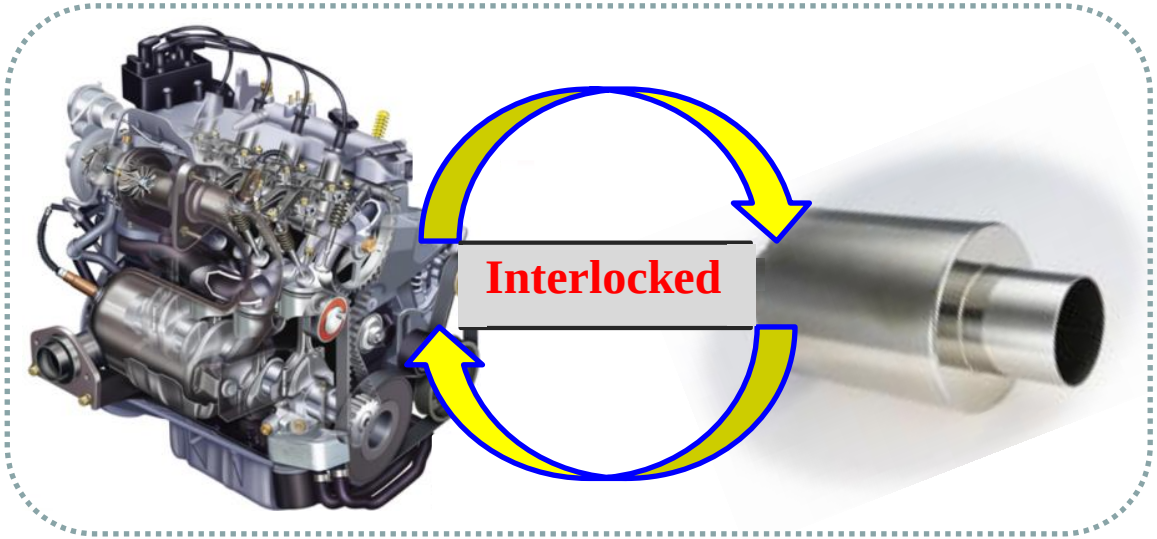
- Fuel efficiency is raised and oil is long-lasting.

- Driver's Stress is reduced

  * Vibration reduction of the vehicle body
  * Engine sound is quiet

JVCS is the Second Engine and improves the engine capacity

●The First Basic Engine ●The Second Reinforced Engine



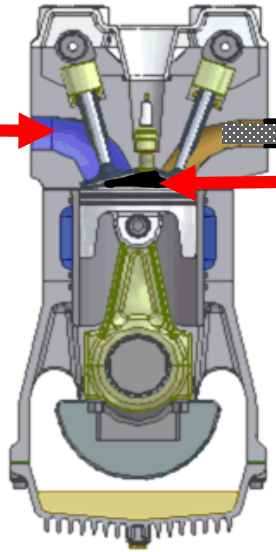
- Power up the First Engine
- Forced suction of the residual gas
- Engine cooling by heat of vaporization

＊It can respond to all of the internal combustion engines.

Engine function is completed by JVCS.

Air Suction

●existing imperfect engine



Muffler is only exhaust-pipe

catalyst

Residual exhaust gas

8%residual high concentration exhaust gas

CO・HC・NOx・SOx・PM・CO2

●Since pressure is constant in accordance with the principles of Pascal, a load is applied to engine.

●The First Basic Engine

Exert a load corresponding suction capacity

Increase the air suction amount

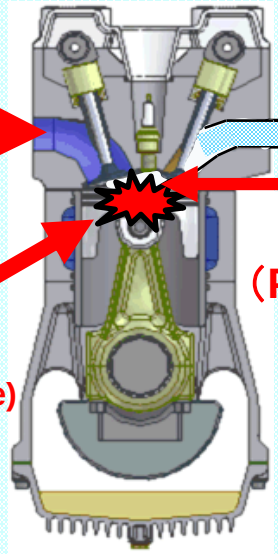
（The amount of oxygen increases.）

●JVCS installed

Increase explosive power

（Engine power up）

（becomes like a rotary engine）



JVCS

catalyst

（H2O）A large amount of water vapor

Clean exhaust gas

Delete residual exhaust gas to the limit

（Perfect combustion）

●The Second Reinforced Engine

Jet Vacuum Chamber System

the cylinder becomes negative pressure, the suction force is generated to assist the piston movement

＊The principles of Pascal + Bernoulli`s theorem + Atmospheric pressure + Negative force + Fluid mechanics

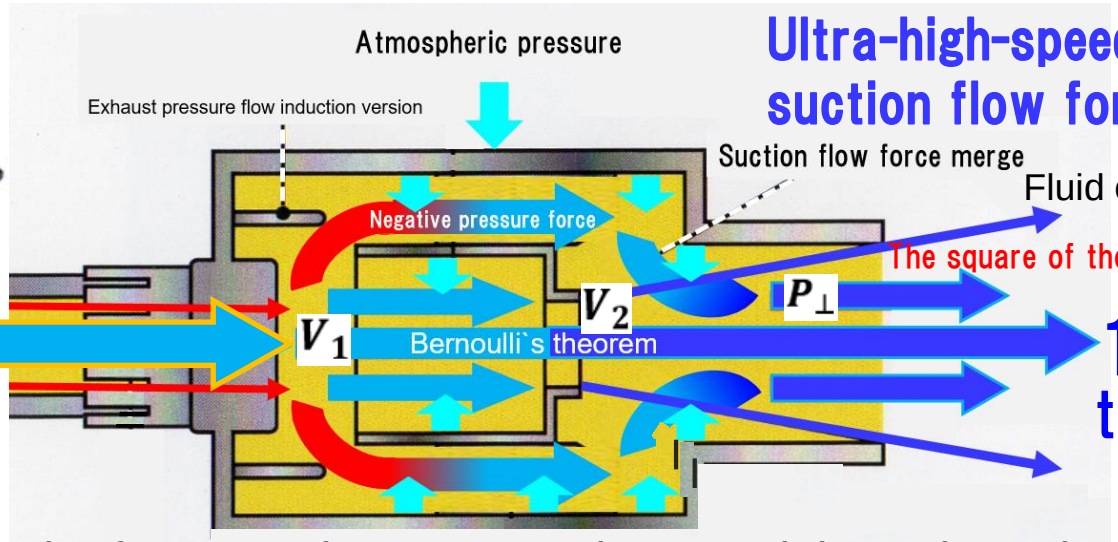
JVCS・The Second Reinforced Engine was invented by Fluid Physics

●The First Basic Engine

（Combustion engine）

●JVCS・The Second Reinforced Engine

（Negative pressure force engine）



Ultrafast negative pressure is spread throughout the cylinder of the engine.

P ＝Pressure　v＝Volume

◦ $\frac{1}{2}\rho v_1^2 + P_0 = \frac{1}{2}\rho v_2^2 + P_0 + P_\perp \quad P_\perp = -\frac{1}{2}\rho(v_2^2 - v_1^2)$

Fluid energy is proportional to the square of the velocity of a flowing fluid.

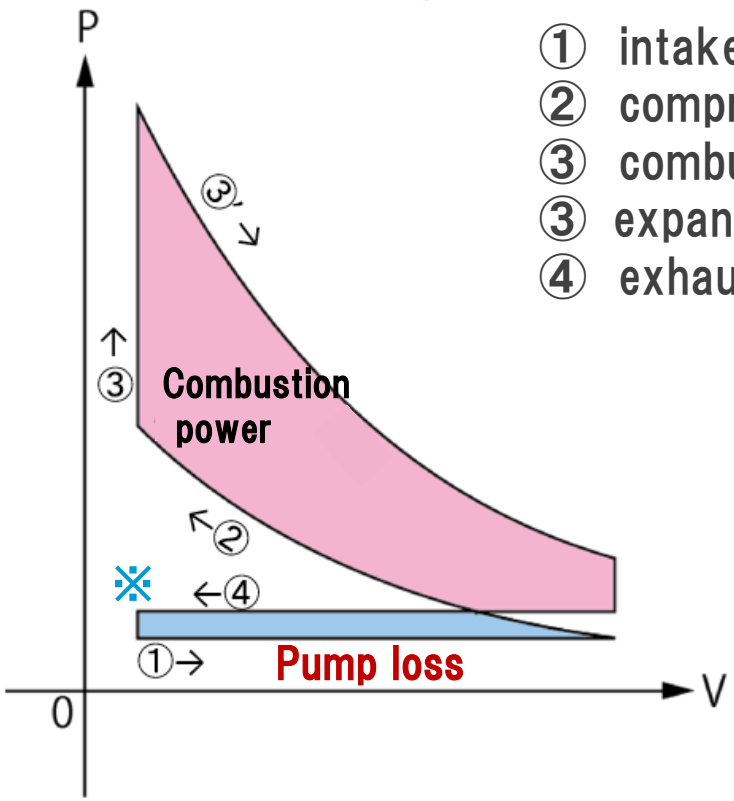
Diameter half ➡ The cross-sectional are 1/4 ➡4 times the velocity of a flowing fluid➡16 times the fluid energy

● Leading to the “completed engine” next to maximum capacity together

PV diagram of the Otto cycle

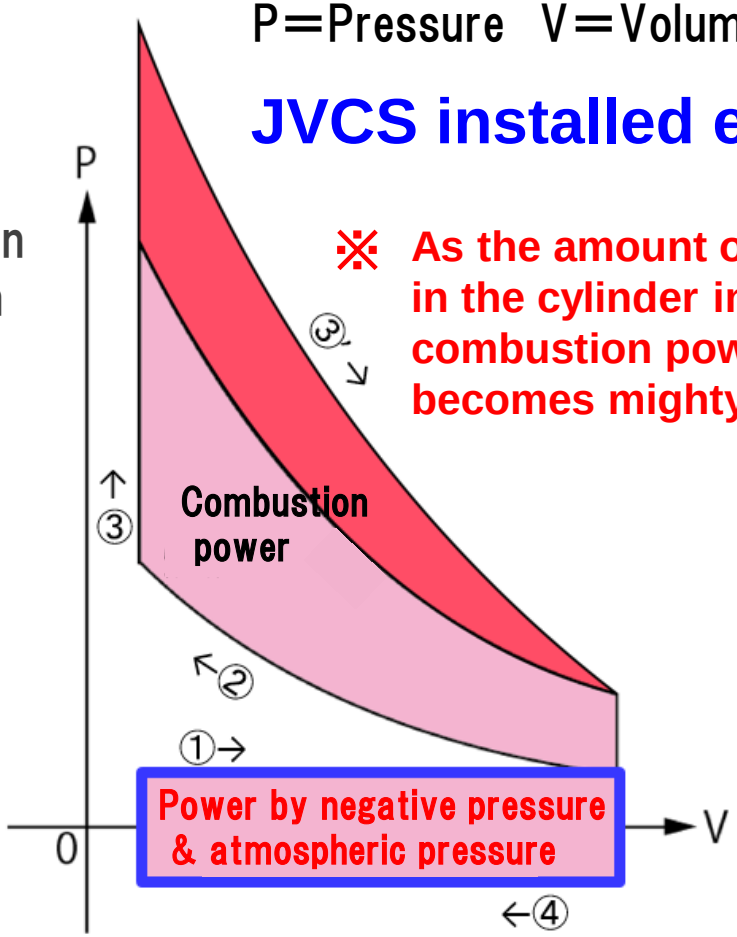
P=Pressure V=Volume

Normal engine



① intake
② compression
③ combustion
③ expansion
④ exhaust

JVCS installed engine



※ As the amount of oxygen in the cylinder increases, combustion power becomes mighty.

* ① Intake and ② exhaust are resistance and take away of the power of the engine

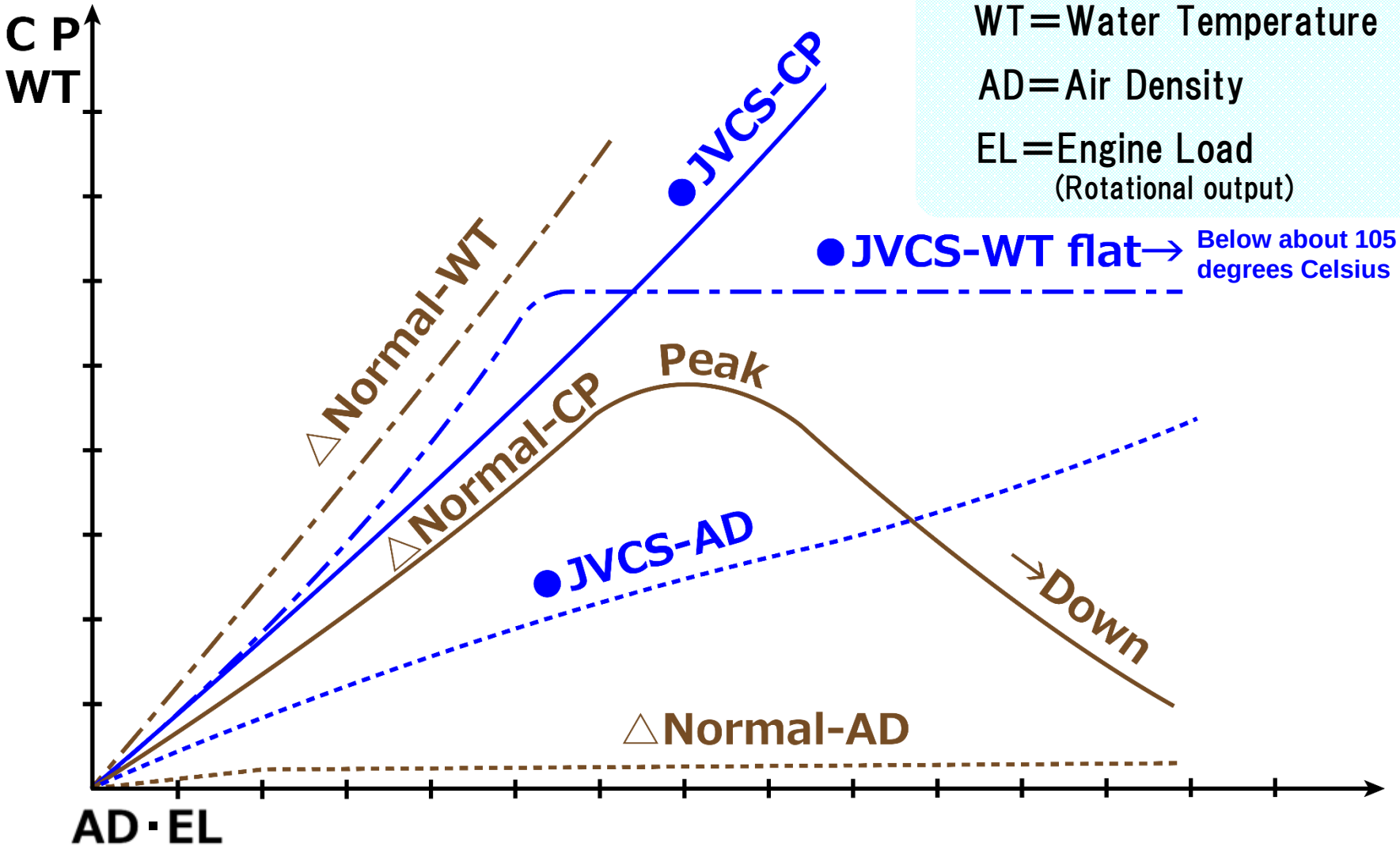
* Both the strong power of negative pressure and atmospheric pressure generated push up the piston and generate a new power.

CP＝Power in Chamber

WT＝Water Temperature

AD＝Air Density

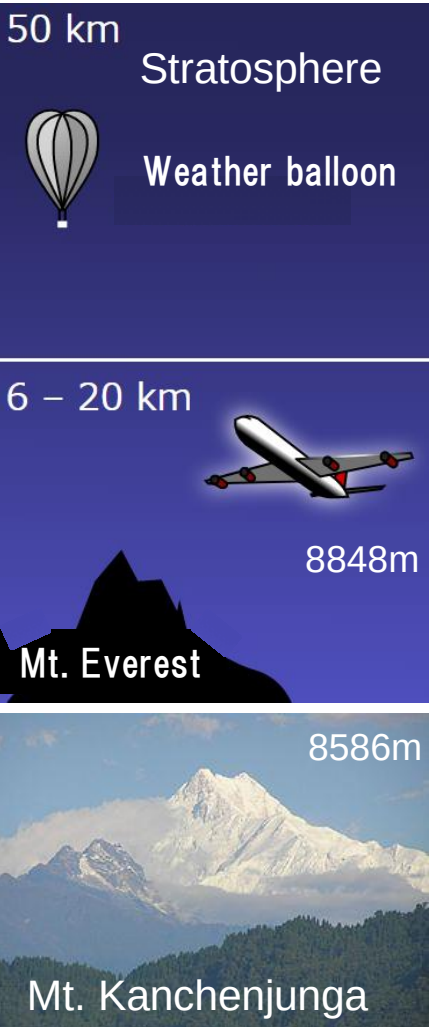
EL＝Engine Load
(Rotational output)



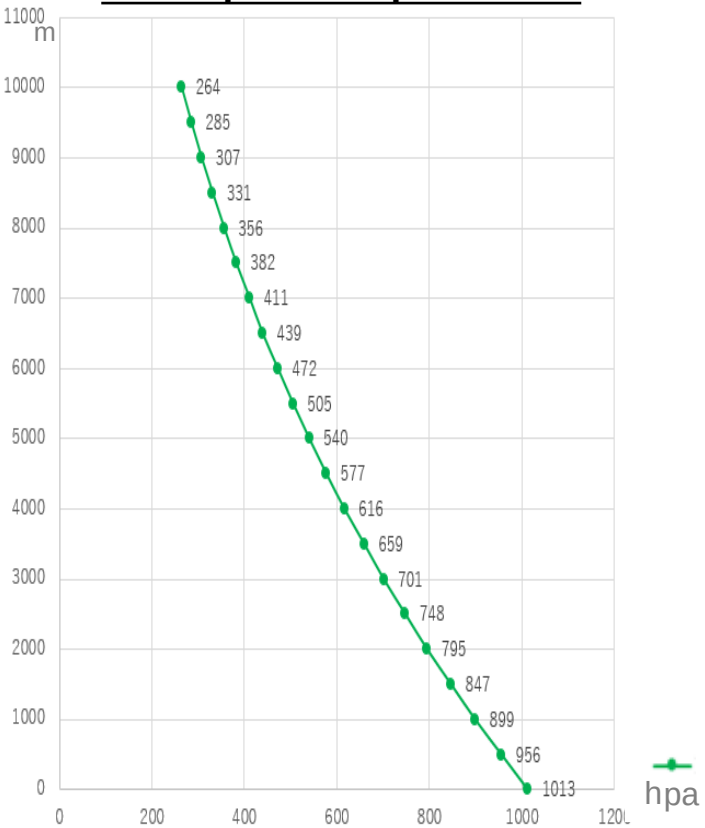
JVCS utilizes the power of the pressure of the earth's atmosphere.

※ JVCS can demonstrate the maximum ability to over 7000 meters.

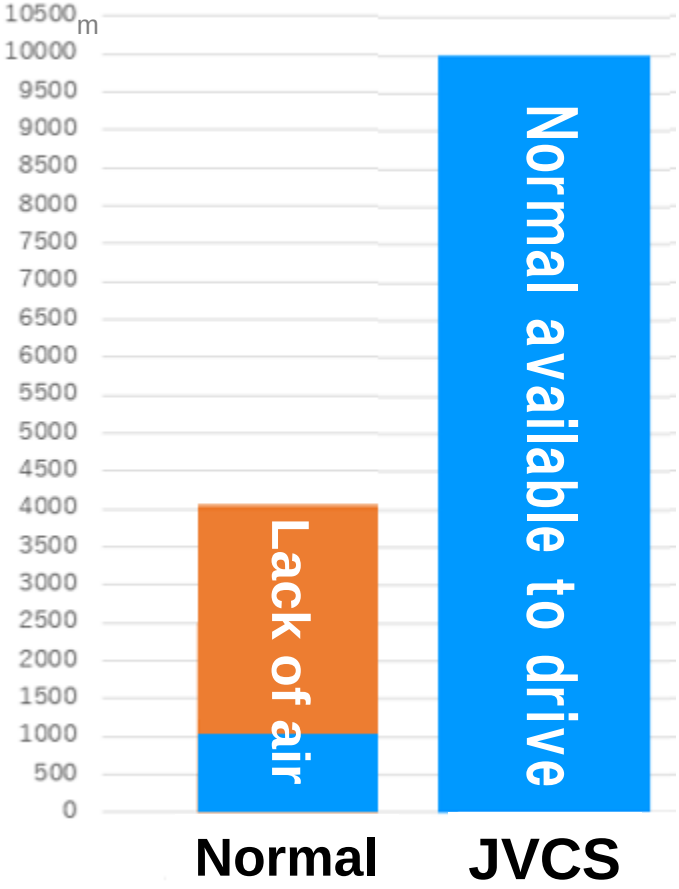
Earth's atmosphere extends to an altitude of 100 km.



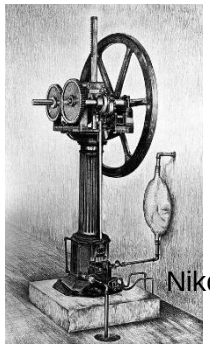
Height difference Atmospheric pressure



Comparison of engine performance by height difference



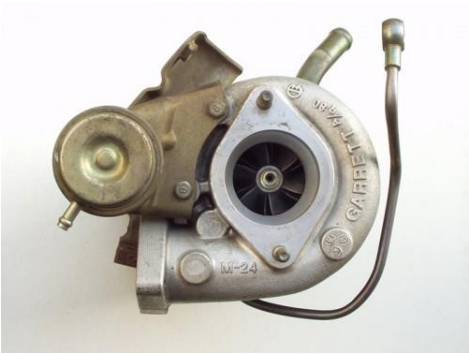
JVCS is the fourth,a new type of engine



Nikolaus Otto

Internal-combustion engine was developed in 1859.

① Normal engine



Completed in 1925

② Turbo engine

Completed around 1960

③ Rotary engine

JVCS creates newly the fourth engine!

A principle of aerodynamics engine was discovered in 1977.
Development and experiment started in 1982.
Real promotion started in 2017.

④ JVCS engine

※ JVCS innovates all existing engines (internal-combustion engine)

Effects on the human body by the exhaust gas

(CO) Carbon monoxide

The automobile is the main source. It is generated when oxygen is deficient and with incomplete combustion.

(HC) Hydrocarbon

It is generated when gasoline such as C8H18 is volatilized or when the air-fuel mixture by incomplete combustion is discharged.
HC changes to the chemical oxidant causing the chemical smog by the ultraviolet component of sunlight.
It irritates the mucous membranes, such as the human respiratory and causes difficulty in breathing.
And it closes the pores of the plant and photosynthesis is no longer possible causing the plant to die. It gives adverse effects on the crops.

(NO_x) Nitrogen oxide

It is generated in the combustion chamber in a high temperature and high pressure state where Nitrogen is easily oxidized.
Among the entire exhaust gas, the exhaust gas generated by automobile occupies 30 %

(PM) Particulate matter

Particles of micro-meters
It is defined as the particle size of 10μm or less. Especially the particle size of 2.5μm and less is called Fine particulate matter (PM2.5).
When it adheres to the lung, it cannot be taken out. It is said to be the major cause of lung cancer. Health damage such as bronchial asthma and hay fever has become a major problem.

(SO_x) Sulfur oxide

Generic term for oxides of sulfur
Mainly refers to the sulfur dioxide and sulfur trioxide. Oil that has not been sufficiently purified or low- grade coal contain sulfur.
Sulfur oxide is generated by combustion of those. One of the causes of the air pollution and acid rain.

CO (dangerousness of carbon monoxide)

SUZUKI Swft 1300cc

during the uphill running at 100km/hour

Normal engine	JVCS engine
	
CO＝4.13% HC＝33ppm	CO＝0.19% HC＝0 ppm

uphill road

PPM＝parts per million one millionth 1ppm = 0.0001%

3200ppm （0.32%）	In 10 minutes, headache, dizziness, nausea, in 30 minutes death
6400ppm （0.64%）	In 1~2 minutes, headache, dizziness, nausea and in 10 ~15 minutes death

40000ppm （4%） Instant death in 1~2 minutes

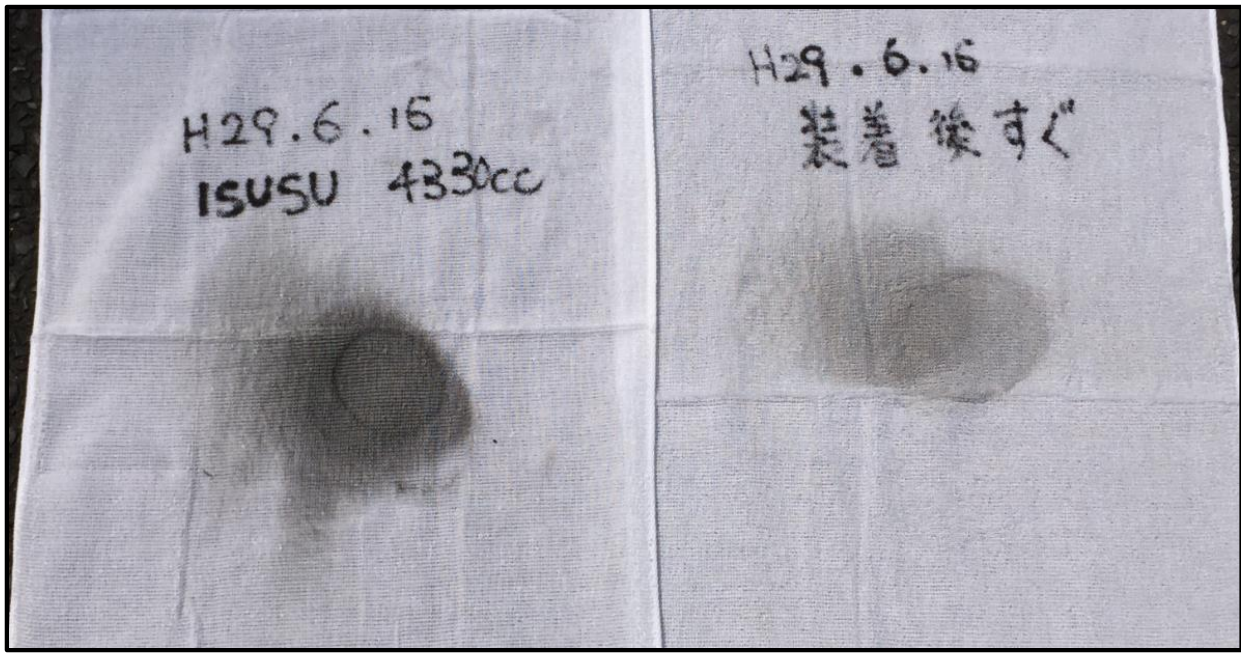
data･･･(SUZUKI Swft 1300cc during the uphill running at 100km/hour.)

Black lead Test – Before and After

ISUZU truck (1995 model)

diesel 4330cc

Vehicle running distance 88,000Km



Normal engine

15 minutes after JVCS was installed

Test car

NISSAN Note 1200cc (2015 model)

HORIBA MEXA-324M
(Conformity with standards for motor vehicle inspection)

Rotational speed	Normal		JVCS installed	
Idling 800	CO 0.00 %vol	HC 0 ppmvol	CO 0.00 %vol	HC 0 ppmvol
2,000	CO 0.09 %vol	HC 0 ppmvol	CO 0.00 %vol	HC 0 ppmvol
3,000	CO 0.83 %vol	HC 7 ppmvol	CO 0.00 %vol	HC 1 ppmvol
4,000	CO 1.69 %vol	HC 13 ppmvol	CO 0.00 %vol	HC 0 ppmvol
5,000	CO 2.12 %vol	HC 22 ppmvol	CO 0.00 %vol	HC 0 ppmvol

Normal

800 2017-5-2

***** VEHICLE INSPECTION REPORT *****
CO 0.00 %vol
HC 0 ppmvol
MEXA-324M
HORIBA Ltd.

2000

***** VEHICLE INSPECTION REPORT *****
CO 0.09 %vol
HC 0 ppmvol
MEXA-324M
HORIBA Ltd.

3000

***** VEHICLE INSPECTION REPORT *****
CO 0.83 %vol
HC 7 ppmvol
MEXA-324M
HORIBA Ltd.

4000 White smoke

***** VEHICLE INSPECTION REPORT *****
CO 1.69 %vol
HC 13 ppmvol
MEXA-324M
HORIBA Ltd.

5000 Measurement limit

***** VEHIC INSPECTION REPORT *****
CO 2.12 %vol
HC 22 ppmvol
MEXA-324M
HORIBA Ltd.

JVCS installed

800 2017-5-29

***** VEHICLE INSPECTION REPORT *****
CO 0.00 %vol
HC 0 ppmvol
MEXA-324M
HORIBA Ltd.

2000

***** VEHICLE INSPECTION REPORT *****
CO 0.00 %vol
HC 0 ppmvol
MEXA-324M
HORIBA Ltd.

3000

***** VEHICLE INSPECTION REPORT *****
CO 0.00 %vol
HC 1 ppmvol
MEXA-324M
HORIBA Ltd.

4000

***** VEHICLE INSPECTION REPORT *****
CO 0.00 %vol
HC 0 ppmvol
MEXA-324M
HORIBA Ltd.

5000

***** VEHICLE INSPECTION REPORT *****
CO 0.00 %vol
HC 0 ppmvol
MEXA-324M
HORIBA Ltd.

JVCS can solve the exhaust gas problem on earth.

※The toxic exhaust gas cannot be prevented in the current engine technology.

EURO 6

・It defines an upper limit of harmful substances such as CO, HC, NOX, CO2, and PM emitted by automobiles. And if it does not meet the criteria, car sales is not authorized.

・ RDE (Real Drive Emissions) which is also subject to regulation by the actual running time of the numerical value is introduced.

To meet Euro 6, new engine development is necessary, so there may be a possibility that some automotive manufacturers must stop their manufacturing diesel vehicles, gasoline cars and LPG vehicles if they do not meet the criteria.

● To clear the EURO 6 standard regulations, "JVCS mounted new engines" is really necessary