



The Science of Hydrogen

The Hydrogen Carbon Cleaning machine is a very simple device that uses the over 100 year-old process of water electrolysis to electrically crack chemically-enhanced water into its two component parts, oxygen and hydrogen.

The hydrogen flows to the cathode electrode of the machine and is directed through a tube into the air intake of a warmed up, running gasoline internal combustion or diesel engine.

Depending on the size and mileage of the engine, in approximately 30-60 minutes, hydrogen and oxygen sparked produces steam in the combustion chamber which loosens, burns and sends most of the carbon buildup out through the engine exhaust. Engines and downstream components are effectively steam-cleaned from the inside. Hydrogen also bonds with carbon to help break it apart for burning and exhaust.

This carbon buildup in modern engines is the result of incomplete fuel "washing" and burning and is especially prevalent in Port Fuel Injected and Gasoline Direct Fuel Injected (GDI) systems as well as diesel engines downstream to their DPF (Diesel Particulate) filters.

Unlike competing toxic chemical treatments on the market like BG Flush, Hydrogen Carbon Cleaning is an environmentally clean and safe way to clean dirty, under-performing engines and restore their performance and fuel efficiency closer to the vehicle's brand-new condition. Our treatment is not perfect- some super-hard deposits may remain behind and need physical cleaning, but hydrogen does a very good job at cleaning out most carbon deposits.

Hydrogen is the first, lightest (lighter than helium) and simplest element on the periodic table. Normal "air" consists of approx. 78% nitrogen, 18% oxygen and other trace gasses- there is no free hydrogen in the Earth's atmosphere.

Consisting of one proton and one electron, and being the most abundant element in the universe, hydrogen does not stay by itself in Earth's environment- it bonds with oxygen to make water, carbon to create hydrocarbons and other chemicals to create things like Hydrogen Peroxide. Hydrocarbons are what gasoline and diesel fuel are made from.

When we burn these fuels in an internal combustion or diesel engine, some black, sooty carbon deposits are left behind clogging valves, throttle body, oxygen sensors, spark plugs, EGR (exhaust gas recirculator) turbochargers, catalytic converters and exhaust systems. Hydrogen cleaning helps to clean all these components and systems.