

Panacea-BOCAF On-Line University

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GEET is an acronym for Global Environmental Energy Technology. GEET is a registered trademark of Global Environmental Energy Technologies. Quote- ***By our experiences, we know that a car can run with 5% of oil and 95% of water.*** –End Quote
<http://quanthomme.free.fr/> (place URL in Google for translation from French to English).

Over View



THE SUCCESSFUL PMC RETROFIT LOGBOOK www.quanthomme.org



More than 100 successful replications !!!

Source - <http://perso.wanadoo.fr/quanthommesuite/RealPMCPantone.htm>

There is a vast dissemination of GEET Replications in the country of France. More than 100 successful replications of this technology have been reported. Above you can see many French examples of the GEET technology being used in tractors, generators, cars, lawnmowers, cranes and many others! The technology is even being used in a helicopter.



[Reference](#)

Quote- *The French speaking people have engaged in a large battle to develop the use of the GEET of the Pantones, and with the help of J.L. Naudin, the website's managers of QUANTHOMME.com, Mr M. DAVID's replication and tests plus along with Mr Martz engineering's study, **there are now hundreds of vehicles that have been modified in France since 5 years, maybe thousands.***

*Especially in the agricultural communities, these people are adapting their tractors and machines ever since one of them found a simplified version of the GEET concept, that offers enormous advantages, like **reducing the fuel consumption by factor 2 to 5, and eliminating 95% of the exhaust fumes** (when testing the exhaust end with a white textile it stayed white!), and without a major modification on the vehicle.-end quote-*

[Reference.](#)

Lorries, Boats, Big Generators can also be converted.



[Reference](#)

Despite the GEET being proven technology and available for many years, other western countries do not have this fuel reforming emission cutting technology in place and faculties are still unaware of its power management process. This is partly due to the inventor and related GEET groups encountering "interference" and or suppression - [Reference](#).

The GEET technology is understood to be a self-inducing plasma generator or a plasma reactor with an endothermic reaction –[reference](#). A U.S. patent was issued to Pantone for a "Fuel pretreater apparatus and method" on 18 August 1998. Independent reports by replicators confirm that the GEET can triple fuel efficiency and cut pollution by up to 90% by simply transferring exhaust heat to the fuel intake. Pantone explains that the instantaneous pressure fluctuations in the exhaust help to create a vacuum that, when combined with the heat, creates micro-magnetic forces. This produces plasma that dissociates the hydrogen from the oxygen in the carburetor.

Initially the GEET is applied as a dynamic fuel-exhaust recycling device that can be fitted to an engine, between the air intake and the exhaust. **Many variants and improvements have since been patented by engineers in France.**

Currently the open source Vortex Heat Exchanger group located at: <http://tech.groups.yahoo.com/group/VortexHeatExchanger/> is working on a Hambrin/Pantone/Martz reproduction version.

Despite the GEET using a transmutation and plasma process (being a relatively new field of science), the GEET fuel processor is a combination of very basic scientific principles which fall within most of the normal rules and laws of thermodynamics. But **some of the 70 simultaneous phenomenon's are not found in those books**, since it is the *combination of events*, which is the body of this discovery- [Reference](#).

Given the efficiency reports by the GEET replicators, this technology is an invaluable power management process which the mainstream faculties must benefit from. **As an emission cutting device and power savings device alone, the GEET technology justifies (and needs) law for its mandatory implementation.**

The Non profit organization Panacea-BOCAF intends to support open source engineers working with the GEET and other suppressed clean energy technologies. These engineers require grants, resources, faculty recognition and security. All this can be created in [Panacea's proposed granted research and development center](#). For those able to help this effort, please [Contact us](#).

Description



Inventor Paul Pantone pictured next to the GEET.

Energy losses occur in an internal combustion engine (ICE) due to the incomplete conversion of combustion energy (chemical energy) into mechanical energy. The overall engine efficiency is about 25% for a diesel cycle, and even lower for a gasoline engine. The ICE conversion from the air / fuel mixture of chemical energy into useful mechanical energy **wastes around 75% of potential energy**. This wasted energy results in **harmful emissions** and is expelled as a mixture of gases and **heat losses** evacuated through the engines exhaust.

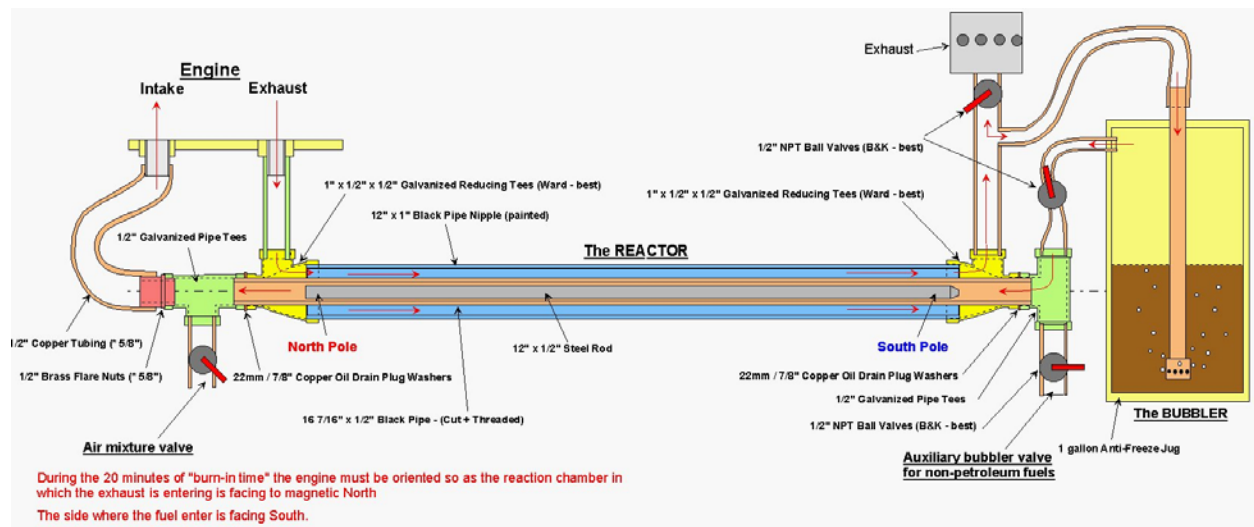
Paul Pantone's GEET multi fuel processor recovers these heat losses into a form that can be directly transformed into mechanical energy by the same engine. The GEET recovers the lost heat to transform the air and water vapor incoming into the engine into a combustible usable mixture. **This device allows a significant reduction of pollution of almost 85% generated by the gas exhaust compared to a conventional engine-**
[Reference](#).

The invention could be called a new type of carburetor with a miniature refinery built in. This invention can be fitted to 2 or 4 stroke engines, cars, scooter and even diesel generators and cut their emission to virtually nothing- [Reference](#).

This GEET allows for the use of any type of hydrocarbon fuels like crude oils, methanol, gasoline, plus various solvents, kerosene, bio-diesel to be **mixed with water for a usable fuel**-[Reference](#). The GEET is a dynamic fuel-exhaust recycling device that can be fitted to an engine, between the air intake and the exhaust.

Replication

The GEET multi-Fuels Processor is patented technology ([US005794601A1](#)).



Credits got to [JLN labs](#) and Rex Research. Please Copy and enlarge for a better view.

An Alternative source for this diagram can be found at the following:

<http://www.rexresearch.com/pantone/geetbig1.jpg>.

The Following is provided originally by [Rexresearch](#).

Do-It-Yourself
GEET Construction Plans
for a Small Engine (<20 HP)

Step 1 ~ Tools needed - pipe wrench, crescent wrench, spring tube benders, pipe cutter, pipe flaring tool, allen wrench, soldering equipment, file, and screw driver. Obtain all your parts and tools needed for the conversion ahead of time. (Parts List at bottom)

Most professional plumbing supply stores stock higher quality parts compared to large home centers cheap plumbing parts. The savings aren't that much on a small project like this. The most crucial quality part is on the inner pipe, problems arise from inconsistent wall thickness, out of roundness, thick weld seams, etc on low quality pipe.

Step 1: Tools Needed ~



Step 2 ~ Strip down the engine removing the gas tank, muffler, and carburetor. Remove the mower blade and replace with a 12" diameter steel disk flywheel of the same thickness as the blade for safety.

Step 2: Stripped Engine ~



Step 3 ~ Take the 1"x1/2"x1/2" reducing tees and mount them on a 1" nipple (short pipe), and then using a lathe, machine the end smooth and fly cut (bore out) the hole in the end 27/32" (21mm) so that the 1/2" inner pipe will slide inside. This procedure can also be done by using a drill press to drill a 27/32" or 7/8" hole in the end of the tee and then use a file to smooth the roughness off.

The 1/2" pipe connector and 1/2" tee will each need to have one end smoothed off as well to receive the copper washers as a tight seal.

Step 3: Tee & Connector ~



Step 4 ~ Have a plumber or plumbing center cut your inner reactor 1/2" pipe to 16 + 7/16" and thread both ends. Use Black Pipe here because galvanized pipe gives off toxic fumes if heated too much. File the 12" x 1/2" multi-fuel steel rod to a bullet point on one end only. (7 + 3/8" x 1/2" for gasoline only) This will keep you out of trouble later if you can't remember which way the rod points. The engine will not run if the rod is put in backwards after it has a magnetic signature.

Assemble the parts in order as in the above picture using the 7/8" / 22mm copper. Washers used in oil drain plugs for cars. (2 - 1"x1/2"x1/2" machined reducing tees joined by the 12" long 1" nipple, slide the 16 + 7/16" long 1/2" reactor pipe inside, add a copper washer on each end and then add the 1/2" tee, 1/2" NPT / 1/2" Brass Male Flare Fitting, and 1 1/2" nipple, and 1/2" Air Mixture Valve.)

Step 4: Plumbing Pipes & Rod ~



Step 5 ~ Assemble the other valve component subassemblies above. The 1/2" thick steel intake / exhaust adapter plate above is used only on some engines like "Tecumseh" and Overhead Valve Engines (picture 9). Add a 1/2" NPT / 1/2" Brass Male Flare Fitting to the Intake on the adapter plate.

Some "Briggs and Stratton" engines, etc usually already have the exhaust threaded for 1/2" pipe, but the intake is on the other side of the engine causing longer hose runs. Also

a compression pipe connector or a piece of rubber hose with clamps will need to be connected from the engine intake to the Bubbler pipe.

(1/2" valve (Auxiliary Bubbler Valve), 1 1/2" x 1/2" nipple, 1/2" tee, 1 1/2" x 1/2" nipple, 1/2" valve (Throttle/Bubbler Valve), 1/2" to 1/4" pipe reducer bushing, half of 3" x 1/4" nipple.) and (Muffler, 1/2" ball valve (Optional - Back pressure valve), 3" x 1/2" nipple, 1/2" tee, 1/2" to 1/4" pipe reducer bushing, half of 3" x 1/4" nipple, 1 1/2" nipple.)

Step 5: Valve Components ~



Step 6 ~ Assemble the sub-assemblies onto the reaction chamber above making sure to install the 12" rod inside pointed away from the engine. Now it's time to start on the bubbler.

Step 6: Finished Reactor ~



Step 7 ~ Take 10 3/4" x 1/2" copper pipe and solder a copper 1/4" NPT - 1/2" pipe adaptor on one end and a 1/2" cap on the other. Drill a 1/16" hole through the cap, turn 90 degrees and drill through again, also one up through the bottom. Take the other 1/4" NPT - 1/2" adaptor and cut off the thin wall portion to make a pipe nut and file smooth for inside the Anti-Freeze jug.

Step 7: Bubbler End & Pipe Nut ~



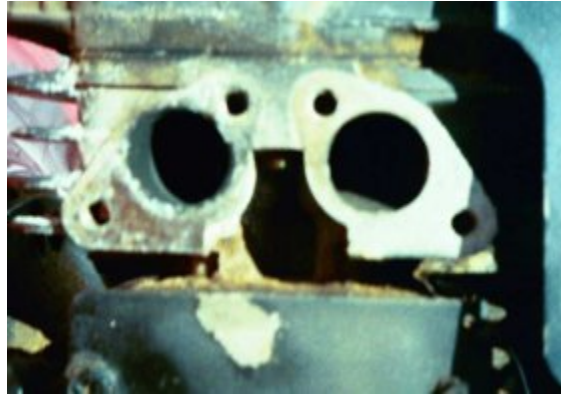
Step 8 ~ Take a 1 gallon anti-freeze jug and drill a 1/2" hole near the top of the jug and through the cap as illustrated. Assemble the parts together in the following order. (Hose, half of 3" x 1/4" nipple, 1/4" pipe connector, short 3/4" nipple, bushing, hole in jug, bushing, and pipe nut.) and (Optional - Back Pressure Hose), half of 3" x 1/4" nipple, 1/4" pipe elbow, short 3/4" nipple, bushing, hole in jug cap, bushing, and soldered pipe.)

Step 8: Bubbler & Hoses ~



Step 9 ~ The port adapter was formed by cleaning the intake and exhaust ports off. Then dipping a finger in the exhaust port to get some soot to rub on wide masking tape taped over the ports. This then leaves a perfect template to then tape into a 1/2" thick piece of steel, then drill the mounting and the port holes and tap the ports with a 1/2" NPT thread tap.

Step 9: Exhaust & Intake ~



Step 10 ~ Use 1/2" tubing for 10 HP or less (* 5/8" tubing and flare fittings for 10-20 HP) with a 1/2" tubing spring bender and form a loop, then remove the spring. Slide the flare nuts on each end, and then slide the flaring tool on so that the pipe sticks out about 3/16", make the flared ends. (Air-Conditioning supply houses carry flare fittings if you have difficulty finding them.)

Step 10: Tubing Loop ~



Step 11 ~ Assemble all the parts onto the engine, and then add a 1" pipe support or 1 1/4" exhaust hangar. Fill the bubbler up no more than 1/4 full till you get used to using it (up to half full later), have someone steady the jug while starting the engine so it doesn't spill into the hoses. If wet fuel gets on the reaction rod it will stop running, you'll have to dry your rod and hoses out. You can hang it from the mower handle if you like later after it's started.

You must point the exhaust end of the rod due north while starting the engine the first time and let it run for 30 min to "burn in the rod". The rod will self center magnetically by itself after it's running or you can weld three bumps on each end to center the rod (file them to fit snugly).

Leave the optional back pressure valve full open, open the throttle about halfway and crack open the mixture valve, and start the engine by varying the air mixture valve. If it's very cold you will have to choke the engine by blocking off the air valve with your finger. Then slowly increase the throttle wide open while adjusting the air mixture valve.

The engine will turn over easily if you are near the right setting, if it's very hard to pull, readjust the throttle or air valves. Make sure to paint all external pipes and connectors with High Temperature Grill Paint or they will rust very quickly afterwards. (Except copper, brass or galvanized)

Step 11: Finished Conversion ~



Step 12 ~ for an installation on a generator, you can also use 90 degree elbows to keep the pipes within the cage. Mount the GEET Fuel Processor as far away as possible from the generator magnetic field so they do not interfere with each other. Also be very careful with credit cards in your pockets or video cameras, etc from getting too close to the engine while it's running so they won't be erased.

Step 12: 5 KW GEET Generator ~



Finally: Experiment with the optional "Back Pressure Valve" to run closed loop on alternative fuels, don't use hydrocarbon fuels, because they will be contaminated with

water from the exhaust (Hydrogen and Oxygen combining). Different materials for the inner pipe and reaction rod. Different rod lengths and also threaded rods, engine side of the reactor locations for the air mixture and/or throttle valves, exhaust heated copper tubing from the bubbler to the throttle valve, 5 gallon bubblers, double bubblers for non-soluble fuels, vacuum gages, etc, etc, and also "alternative fuels".

Additional note: It has been found that the 1/2" reaction rod inside the pyrolitic chamber gives a bit too much clearance. It is recommended to use a 9/16" steel rod for the reaction rod.

Parts List

Note: Some Engines Only --- 1/2" Steel Adapter Plate with 4 flush 3/4" Allen Screws and 12" steel disk

Fuel Processor:

- 1 - 16 7/16" x 1/2" Black Pipe - (Cut + Threaded)
- 1 - 12" x 1" Black Pipe Nipple (painted)
- 1 - 12" x 1/2" Steel Rod
- 2 - 1" x 1/2" x 1/2" Galvanized Reducing Tees (Ward - best)
- 2 - 22mm / 7/8" Copper Oil Drain Plug Washers
- 1 - 2" x 1/2" Galvanized Pipe Nipple
- 1 - 1" Galvanized Pipe Hanger with Bolt & Nuts
- 4 - 1 1/2" x 1/2" Galvanized Pipe Nipples
- 1 - 3" x 1/2" Galvanized Pipe Nipple
- 4 - 1/2" NPT Ball Valves (B&K - best)
- 1 - 1/2" Galvanized NPT Muffler
- 3 - 1/2" Galvanized Pipe Tees
- 2 - 1/2" x 1/4" Galvanized Pipe Reducing Bushings
- 1 - Can Hi-Temp Grill Paint
- 27" - 1/2" Copper Tubing (* 5/8")
- 2 - 1/2" NPT / 1/2" Brass Male Flare Fitting (* 5/8")
- 2 - 1/2" Brass Flare Nuts (* 5/8")

Bubbler:

- 1 - 1 gallon Anti-Freeze Jug
- 4 - 1/2" Galvanized Hose Clamps
- 6' - 1/2" ID Clear Vinyl Hose - (cut in half)
- 2 - 3" x 1/4" Galvanized Pipe Nipples - (cut in half)
- 4 - 9/16" Galvanized Bushing Washers - (1/8" thick)
- 1 - 1/4" Galvanized Pipe Elbow
- 2 - 3/4" x 1/4" Galvanized Pipe Nipples

- 1 - 1/4" Galvanized Pipe Connector
- 1 - 10 3/4" x 1/2" Copper Water Pipe
- 1 - 1/2" Copper Pipe Cap
- 2- 1/2" x 1/4" NPT Copper Pipe Adapters

Validation

Panacea-BOCAF has registered open source engineers who have successfully replicated the GEET device. Our personal replication has shown that is possible to run a 4 stroke motor - generator on **70% water and 30% fuel!**



Above is Panacea's open source engineer Damian operating a 4 stroke generator on 70% water 30% fuel!

[Google- Video of the Unit Running](#)

Obviously this technology is critically needed to cut emissions; there is no justification for keeping the inventor contained and further development of the GEET technology under wraps. Despite the GEET technology being a working and available device, their scientific find has no faculty recognition, and they are further unable to get mainstream media to present their findings. Their contributions need a grant backed research and development environment to flourish and will be submitted into faculty study in panaceas research and development centre.

If you're a member of the public or a scientific group which can aid in grants for the centre or help the GEET technology please [contact Panacea](#). If you are an open

source engineer working with the GEET technology please contact us, as we may be eligible for GRANTS –[Reference](#).

Certified faculty emission testing reports

– Coming soon.

Related Patents and information

US Patent # 5,794,601 US Cl. 123/538 ~ August 18, 1998

Fuel Pretreater Apparatus and Method

Paul Pantone

Abstract ~ A novel fuel pretreated apparatus and method for pre treating an alternate fuel to render it usable as the fuel source for fuel burning equipment such as internal combustion engines, furnaces, boilers, and turbines, includes a volatilization chamber into which the alternate fuel is received. An exhaust plenum may enclose the volatilization chamber so that thermal energy supplied by exhaust from the fuel burning equipment can be used to help volatilize the alternate fuel. A bypass stream of exhaust may be diverted through the alternate fuel in the volatilization chamber to help in volatilizing the alternate fuel and help carry the volatilized fuel through a heated reactor prior to its being introduced into the fuel burning equipment. The reactor is preferably interposed in the exhaust conduit and is formed by a reactor tube having a reactor rod mounted coaxially therein in spaced relationship. The exhaust passing through the exhaust conduit provides thermal energy to the reactor to pre treat the alternate fuel.

Current U.S. Class: 123/538; 123/557; 123/575

Intern'l Class: F02M 031/18

Field of Search: 123/538,557,575,1 A,568

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Description ~

BACKGROUND OF THE INVENTION

1. *Field* -

This invention relates to fuel burning equipment and, more particularly, to a novel fuel pretreater apparatus and method for making it possible for such fuel burning equipment to utilize as a fuel a material not otherwise considered suitable as a fuel for such equipment.

2. *State of the Art*

Most fuel burning equipment in use today is designed to burn a particular fuel. For example, internal combustion engines are designed to burn gasoline or diesel fuel, furnaces and boilers to burn natural gas, oil, or coal, and turbines to burn kerosene or jet fuel. Fuels or other materials other than the fuels for which the equipment is designed to burn cannot generally be used in such equipment.

For example, in internal combustion engines, particularly in light of the extreme sophistication of many current engines, not only for fuel economy but also for reduction in the emitted pollutants, great care is taken in the selection of the fuel grade particularly as to its quality prior to its introduction into the internal combustion engine. One does not consider crude oil or recycled materials such as used motor oil, cleaning solvents, paint thinner, alcohol, and the like, as a suitable fuel source for an internal combustion engine. Further such materials would not be considered suitable fuels for furnaces, boilers, turbines, or most other fuel burning equipment. In addition, one would not consider using such fuels if contaminated by water, nor would one consider using non fuels such as used battery acid or other waste products as fuels for fuel burning equipment.

SUMMARY OF THE INVENTION

The present invention is a novel fuel pretreater apparatus and method for fuel burning equipment. This novel fuel pretreater enables the fuel burning equipment to utilize as fuels combustible products selected from material such as crude oil or recycled

materials such as motor oils, paint thinners, solvents, alcohols, and the like and noncombustible products such as battery acid. Any substance that can be preheated and then burned in the fuel burning equipment will be referred to as alternate fuel. This alternate fuel is introduced as a liquid into a volatilization chamber. The volatilization chamber may be heated to aid in volatilization and in most cases may be advantageously heated by thermal energy from the exhaust in the exhaust conduit of the fuel burning equipment. A portion of the exhaust may even be bubbled through the alternate fuel to assist in the volatilization of the alternate fuel. The fuel vapor produced in the volatilization chamber is drawn through a heated thermal pretreater. The thermal pretreater may be mounted, preferably concentrically, inside the exhaust conduit to be heated by the exhaust gases. The thermal pretreater serves as a reactor and is configured as a reactor tube having a reactor rod mounted, preferably concentrically, therein with a reduced annular space surrounding the rod. The volatilized alternate fuel passes through this annular space where it is subjected to thermal pretreatment prior to being introduced into the intake system of the fuel burning equipment.

THE DRAWINGS

The best mode presently contemplated for carrying out the invention is illustrated in the accompanying drawings, in which:

FIG. 1 is a block diagram of a basic fuel pretreating apparatus of this invention;

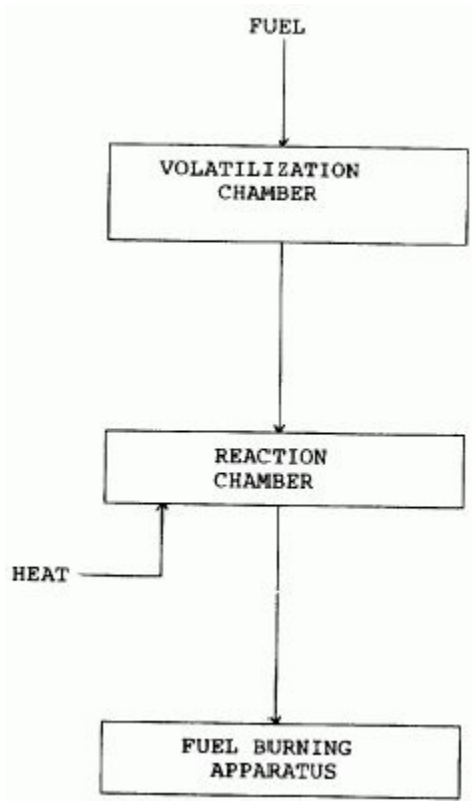


FIG. 2, a schematic flow diagram of the novel fuel pretreater apparatus of this invention shown in the environment of an internal combustion engine; and

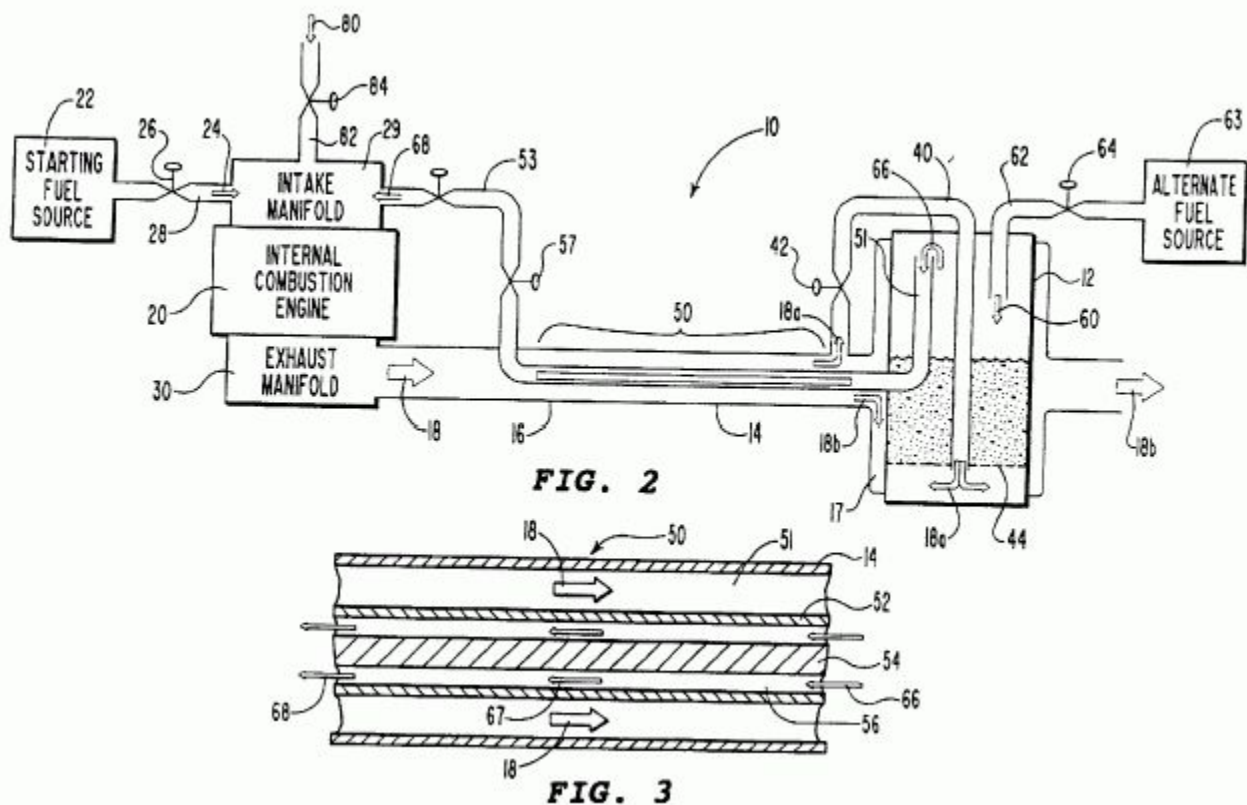


FIG. 3, an enlarged cross-sectional view of a schematic of the reactor portion of the fuel pretreater of FIG. 2.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

The invention is best understood from the following description and the appended claims taken in conjunction with the accompanying drawings wherein like parts are designated by like numerals throughout.

The present invention is a unique apparatus and method for pretreating materials to be used as fuel for fuel burning equipment such as internal combustion engines, furnaces, boilers, turbines, etc. The pretreatment makes it possible for the fuel burning equipment to utilize as its fuel source fuels or other materials that are generally considered as not being suitable fuels for such fuel burning equipment. These alternate fuels include almost any liquid hydrocarbon such as crude oil or recycled material such as motor oil, solvents, paint thinners, and various alcohols, to name several. These alternate fuels may even be contaminated with water or may be material such as used battery acid which is not considered combustible or a fuel. Importantly, as shown in FIG. 1, the alternate fuel is volatilized in a volatilization chamber and is then subjected to a high temperature environment in a heated reaction chamber prior to its being introduced into the intake system of the fuel burning equipment. The reaction chamber provides a

heated reaction zone with a reaction rod therein about which the fuel flows. It is this flow through the heated reaction zone about the reaction rod which makes the fuel suitable for burning in the fuel burning equipment. In most cases, since the fuel burning equipment involved will produce high temperature exhaust gases, in order to save energy, the heating for the reaction chamber will be provided by the exhaust gases from the fuel burning equipment. The reaction chamber will thus usually be positioned in the exhaust conduit, whether an exhaust pipe, flue, chimney, etc., leading from the fuel burning equipment. It is believed important that the fuel flow through the reaction chamber be opposite the flow of exhaust gas in the exhaust conduit so that the most intense heating of the reaction chamber is at the end thereof where the fuel exits the reaction chamber. Currently, it is not known precisely what happens to the volatilized alternate fuel in this high temperature environment although one speculation is that the larger molecules are broken down into smaller molecular subunits of the heavy molecules.

In any event, I have found, for example, that I am able to satisfactorily operate an internal combustion engine using as my fuel source materials generally considered to be totally unsuitable as fuels for an internal combustion engine. For example, in one experimental run I was able to successfully operate an internal combustion engine using recycled motor oil. In another experimental run I was able to operate the internal combustion engine using crude oil as my sole fuel source. In yet another run I was able to use waste battery acid as my sole fuel source.

However, I should state at this point that when the reaction chamber is heated by exhaust gases from the engine, in order to generate sufficient thermal energy necessary to volatilize the alternate fuel in the volatilization chamber, it is necessary to operate the internal combustion engine initially using ordinary gasoline. This step is necessary since, absent my unique pretreatment process, it is impossible to operate an internal combustion engine with the alternate fuels that I am using. Accordingly, the internal combustion engine is started and operated for an initial period until sufficient thermal energy has been generated in order to initiate the volatilization and the pretreatment processes. Once these processes are self sustaining, the fuel system is switched over from the gasoline system to the alternate fuel system. The internal combustion engine continues to operate for as long as the alternate fuel is supplied or until the internal combustion engine is switched off.

Similarly, with other fuel burning equipment, when the reaction chamber is positioned in the exhaust conduit, conventional fuels are supplied to the equipment upon start up and until sufficient thermal energy is supplied to the reaction chamber to produce fuel usable in the equipment from the alternate fuel.

The invention will be illustrated and described in detail with respect to an embodiment thereof for use with an internal combustion engine. Referring now to FIG. 2, the novel

fuel pretreater apparatus of this invention is shown generally at 10 and includes a volatilization chamber 12 and a fuel pretreater section 14 incorporated into an exhaust conduit 16. Volatilization chamber 12 is enclosed in an exhaust plenum 17 through which a stream of exhaust 18 passes. Exhaust 18 is produced by an internal combustion engine 20 which can be any suitable internal combustion engine ranging in size from a small, one-cylinder internal combustion engine to a large, multi cylinder internal combustion engine. Internal combustion engine 20 is shown herein schematically particularly since no claim is made to an internal combustion engine, per se, only to the novel fuel pretreater apparatus 10 shown and claimed herein.

Internal combustion engine 20 includes a fuel tank 22 which supplies a starting fuel 24 and has a valve 26 for controlling the flow of fuel 24 through a fuel line 28 into an intake manifold 29. Fuel 24 enters internal combustion engine 20 through an intake manifold 29 either through carburetion or fuel injection (not shown), both of which are conventional systems for introducing fuel 24 into internal combustion engine 20 and are, therefore, not shown herein but only indicated schematically through the depiction of intake manifold 29. Fuel 24 is ordinary gasoline and provides the necessary starting fuel for internal combustion engine 20 until sufficient thermal energy has been produced in order to sustain the operation of volatilization chamber 12 and pretreater section 14. Thereafter, valve 26 is closed and internal combustion engine 20 is operated as will be discussed more fully hereinafter. Internal combustion engine 20 produces exhaust 18 which is collected from internal combustion engine 20 by an exhaust manifold 30. Exhaust 18 is then directed through exhaust conduit 16 into fuel pretreater 10 where it provides the necessary thermal energy for the operation of fuel pretreater 10.

Exhaust 18b represents a portion of exhaust 18 and passes through plenum chamber 17 surrounding volatilization chamber 12 prior to exiting exhaust conduit 16. Exhaust 18b represents the residual portion of exhaust 18 since a bypass 40 diverts a portion of exhaust 18 (shown as exhaust 18a) into volatilization chamber 12. Plenum chamber 17 acts as a heat exchanger for transferring thermal energy from exhaust 18b to volatilization chamber 12. A valve 42 controls the amount of exhaust 18a diverted into volatilization chamber 12.

Volatilization chamber 12 receives a quantity of alternate fuel 60 through a fuel line 62 from an alternate fuel source 63 with the flow thereof being controlled by a valve 64. Alternate fuel 60 accumulates as a pool of alternate fuel 60 in the bottom of volatilization chamber 12. Bypass 40 directs exhaust 18a into the bottom of the pool of alternate fuel 60 where a bubble plate 44 disperses exhaust 18a upwardly into the pool of alternate fuel 60 in order to assist in the volatilization of alternate fuel 60. However, the primary source of thermal energy for the volatilization of alternate fuel 60 is supplied by exhaust 18b as it passes through plenum chamber 17. The volatilized alternate fuel

60 is shown as volatilized fuel 66 which passes into an inlet 51 which is the end of reactor tube 52 extending upwardly into volatilization chamber 12.

Referring also to FIG. 3, an enlarged segment of pretreater section 14 is shown generally as a reactor 50 which includes a reactor tube 52 located concentrically inside exhaust conduit 16. A reactor rod 54 is mounted concentrically in spaced relationship inside reactor tube 52 to provide an annular space or reaction chamber 56. As shown, exhaust 18 passes through an annular space 51 surrounding reactor tube 52 where it transfers a portion of its thermal energy to reactor tube 52. Volatilized fuel 66 passes counter currently through the annular space of reaction chamber 56. The turbulent mixing of volatilized fuel 66 as it passes through reactor 50 in combination with the thermal energy imparted to it from exhaust 18 along with what is believed to be a catalytic reaction therein initiated by reactor rod 54 produces a pretreated fuel 68. Pretreated fuel 68 is then directed through an intake line 53 (which is an extension of reactor tube 52) into intake manifold 29. A valve 57 in intake line 53 controls the flow of pretreated fuel 68 into intake manifold 29. Supplemental air 80 is introduced into pretreated fuel 68 through an air intake 82 with the flow of supplemental air 80 being controlled by a valve 84.

The presence of the reactor rod has been found important to operation of the invention. The make up of the reactor rod does not appear to be important. A steel reactor rod has been found satisfactory as have stainless steel, aluminum, brass, and ceramic reactor rods.

Steady state operation of internal combustion engine 20 involves exhaust 18 contributing thermal energy to reactor 50. A portion of exhaust 18 is diverted as exhaust 18a and bubbled through the pool of alternate fuel 60 in the bottom of volatilization chamber 12. Exhaust 18a combines with the volatilized fuel from alternate fuel 60 to provide volatilized fuel 66. Volatilized fuel 66 is drawn into inlet 51 thence through reaction chamber 56 of reactor tube 52. The balance of exhaust 18b passes through plenum chamber 17 where a substantial portion of the balance of the thermal energy in exhaust 18b is transferred into alternate fuel 60 to assist in the volatilization of the same.

The method of this invention is practiced by starting internal combustion engine 20 using starting fuel 24 obtained from starting fuel tank 22. The flow of starting fuel 24 through fuel inlet line 28 is controlled by valve 26. Valve 84 is opened initially to allow the free flow of air 80 through air intake 82 during this starting phase of internal combustion engine 20. Internal combustion engine 20 generates exhaust 18 which is collected in exhaust manifold 30 where it is then directed into exhaust conduit 16. Exhaust 18 contains a significant amount of thermal energy resulting from the combustion of starting fuel 24 in internal combustion engine 20. A portion of the thermal energy in exhaust 18 is used to heat reactor 50 and then to volatilize alternate fuel 60.

Specifically, exhaust 18a is diverted through exhaust bypass line 40 into volatilization chamber 12 where exhaust 18a is dispersed by bubble plate 44 into alternate fuel 60. Exhaust 18a transfers its thermal energy to alternate fuel 60 and also provides a carrier stream for the volatilized products of alternate fuel 60 so that this combination becomes volatilized alternate fuel 66 which is then drawn into intake 51. At this point it should be noted also that valve 84 is partially closed in order to create a partial vacuum in pretreated fuel line 53, which means that a partial vacuum will also be created in intake 51. Simultaneously, valves 42 and 57 are selectively controlled in order to suitably recirculate the flow of exhaust 18a and volatilized alternate fuel 66, respectively. In the meantime, the balance of exhaust 18 becomes exhaust 18b which passes through plenum chamber 17 where it transfers its thermal energy into volatilization chamber 12 and alternate fuel 60 therein. Accordingly, a major portion of the balance of thermal energy in exhaust 18 after exhaust 18 has passed through reactor 50 is transferred into alternate fuel 60 for the volatilization of the same.

Volatilized alternate fuel 66 is directed into reaction chamber 56 where it is subjected to the pretreatment process of this invention by becoming reaction fuel 67 and then pretreated fuel 68. At the present time I am unable to state with any degree of certainty precisely what happens to reaction fuel 67 in reaction chamber 56. However, I have found that the larger molecules in volatilized fuel 66 appear to be broken into fragments with some type of reaction taking place. Specifically, I have found that a portion of the length of reactor 50 becomes quite hot, substantially hotter than could otherwise be accounted for from the thermal energy from exhaust 18 alone. This surplus thermal energy implies that some form of reaction is occurring in reaction fuel 67 as it is transformed into pretreated fuel 68. For example, in one prototype of the invention, the end of the exhaust conduit 16 positioned adjacent the end of reactor 50 closest the exhaust manifold 30 maintained a temperature of between about 500.degree.-700.degree. F. The portion of exhaust conduit 16 positioned along the central portion of the reactor 50 had a temperature between about 600.degree.-900.degree. F., while the position of the exhaust conduit 16 positioned adjacent the end of the reaction chamber where the volatilized alternate fuel entered was at a temperature between about 200.degree.-300.degree. F. Thus, the position of the exhaust conduit along the central portion of the reactor 50 reached temperatures higher than would be expected from the temperature of the other position of the pipe. Pretreated fuel 68 is directed into intake manifold 29 where it becomes the fuel source for internal combustion engine 20.

The change over from starting fuel 24 to pretreated fuel 68 is accomplished by the careful adjustment of valves 26, 84, 57, and 42. In this manner, the operation of internal combustion engine 20 is smoothly transferred from sole reliance on starting fuel 24 to reliance entirely on pretreated fuel 68. Using the novel teachings of this invention, I have run internal combustion engine 20 on alternate fuel 60 selected from materials

generally considered to be totally unsuitable as a fuel for internal combustion engine 20. These alternate fuels have included crude oil and recycled materials such as motor oil, paint thinners, alcohols, and the like. Also, such fuels having some water content have also been used. Many of these alternate fuels are waste products for which disposal is a significant problem. By being able to use such waste products as fuel, a major source of pollution is eliminated. Tests on the exhaust generated by the engine 20 burning the alternate fuels have indicated that such exhaust is much cleaner than exhaust normally generated by such engines when burning gasoline in normal manner (gasoline can be used in the system as the alternate fuel of the invention to operate the engine more efficiently and without significant pollutants in the exhaust).

The dimensions of the reaction chamber and the reaction rod are such that the rod forces the volatilized fuel to flow substantially along the wall of the reaction chamber. For a 350 cubic inch V-8 Chevrolet engine, a reaction tube of about one-half inch inside diameter is placed substantially concentrically in an exhaust pipe from the engine. The reaction rod has a diameter to leave a concentric space between the reaction rod and inside wall of the reaction tube of about 0.035-0.04 inches and the reaction rod is between about ten inches and twelve inches in length. Lighter fuels, such as gasoline, work with the larger spacing between the reaction rod and reaction tube wall and the shorter rod while the smaller spacing and longer length may be required for heavier fuels such as crude oil since the heavier fuels generally require more heating and velocity through the reaction zone. Similar dimensions have been found satisfactory for use with single cylinder engines such as those having up to about fifteen horsepower. The smaller engines seldom require a reaction rod greater in length than about four inches. Similar dimensions will be used with other internal combustion engines.

The various dimensions indicated are examples only and can vary, usually depending upon the type and size of engine, fuel volume required, and the type of alternate fuels to be used. The important thing is that the passage for the volatilized alternate fuel through the reaction chamber be such as to cause the reaction to take place to convert the volatilized alternate fuel to the reaction fuel which is satisfactory for operating the engine.

While the invention has been described in detail in connection with an internal combustion engine, the invention can be used equally as well and in similar manner with any fuel burning equipment. Thus, it can be used to treat material so it can be used in fuel for furnaces and boilers in place of the normal natural gas, fuel oil, or coal, or to power turbines in place of the normal kerosene or jet fuel. The reaction chamber can be positioned in the exhaust conduit, such as a flue or chimney, similarly as it is placed in the exhaust conduit from the internal combustion engine shown.

Rather than heating the reaction chamber with exhaust gases from the fuel burning equipment being powered, and such heating is presently preferred because such heating is integrally a part of the equipment used which appears to provide optimum results, the reaction chamber could be heated by other means. Such other means, however, should be arranged to provide similar heating and heat gradients as are provided by the exhaust gas.

Whereas the volatilization chamber is shown as heated by the exhaust gas, the volatilization chamber could be heated by other means or, depending upon the material used as fuel, the volatilization chamber might not be heated at all. The important thing is that the material to be used as fuel is volatilized in the volatilization chamber so the volatilized material is drawn into the reaction chamber. As used herein, the volatilization chamber does not have to be a chamber as such, but may be any means which volatilizes the alternate fuel. It could be a carburetor or an injection nozzle or other volatilizing or spray means. Further, it is not necessary that exhaust gas be combined with the volatilized fuel as it is in the embodiment described. It has been found that in most cases the invention works satisfactorily without exhaust gas in the volatilized fuel. In most instances the volatilization fuel will be drawn through the reaction chamber by a low pressure or a pump at the fuel inlet of the fuel burning equipment.

The fuel pretreater of the invention is a novel discovery in that it allows me to successfully operate fuel burning equipment using alternate fuels. As such, I am able to achieve several highly desirable goals, namely, the extraction of valuable energy from alternate fuel while at the same time removing alternate fuel from the waste stream; or, in the case of crude oil, using this material directly thereby eliminating the need to subject the same to the expensive and capital intensive refining processes.

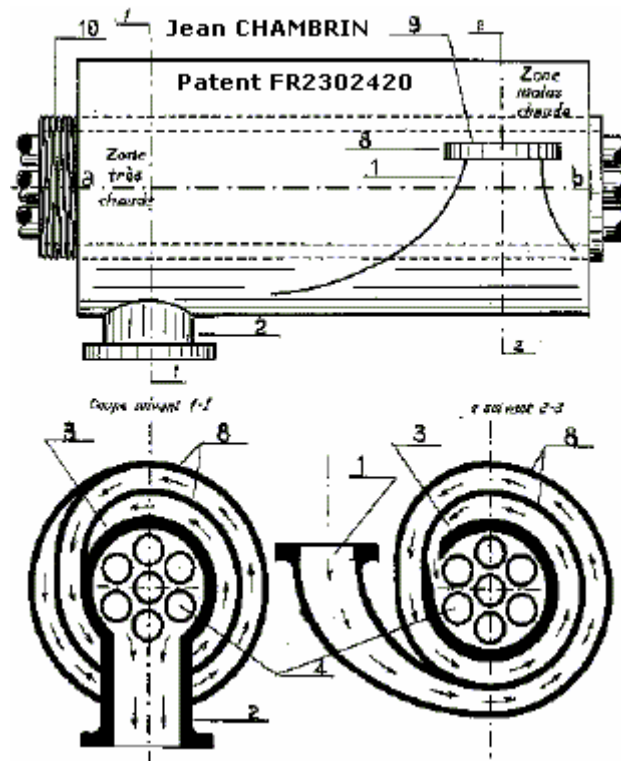
The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

This information is courtesy of [REX research](#). Please consider helping them stay alive and supporting them, they rely on the purchasing of their CD's to live.

Related patents and information

1974, Jean CHAMBRIN & Jack JOJON, France, car running with 60% of WATER. Patents : WO8203249A1: "A reactor for transforming water and carburant for use as a fuel mixture", and WO8204096A1: "A reactor to transmute the matter which using any fuel in its solid, liquid or gaseous state".

And French patent 2,302,420 :



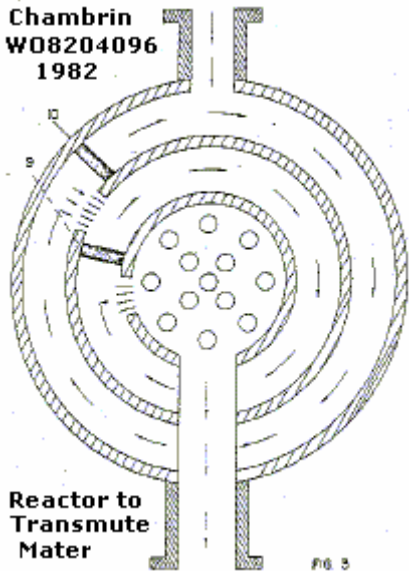
WO8204096, A REACTOR FOR TRANSFORMING AND CARBURANTS FOR USE AS A FUEL MIXTURE, from <http://v3.espacenet.com>, Data supplied from the esp@cenet database.

Publication date: 1982-11-25, Inventor: CHAMBRIN JEAN PIERRE MARIE (BR), - international: F02B43/04; F02B43/00; (IPC1-7): F02B43/08, Also published as: EP0078799 (A1), FI821543 (A), EP0078799 (A0), BE893151 (A), PT74890 (B).

Description: An apparatus that enables the **running of any engine, turbine, boiler, heater, etc., regardless of the fuel used, due to its capacity of transmuting such carburant**, once they contain dihydrogen oxide or are associated to it, into a new fuel.

To **start the transmutation process** it is only necessary to **reach the adequate temperature** for the process, irrespective of the fuel used - **gasoline, ammonia, kerosene, ethylic or methylic alcohol, or any carburant available (either in solid, liquid or gassy state)** - combined with a **hydric element** Contrary to what one can imagine, **this temperature does not reach extraordinary levels** since, in this case, it is only one of the necessary elements to the accomplishment of the phenomenon.

The assembly of the REACTOR itself is the main condition to its functioning.



Once we had the necessary conditions to set in the process, **the REACTOR can even be fed only with dihydrogen oxide (H₂O=WATER)**. Although the phenomenon proved satisfactory, also, in this case, the use of other carburant, mainly the alcohols, even though in **minimal proportions (5 to 95% of dihydrogen oxide)**, is also important. It was verified that the carburant which are firstly used to set in the process can also stabilize the transmutation, as the proportion of dihydrogen increases, **keeping it within the limits of the necessary safety**.

A formal explanation to the said process, considering the use of the REACTOR TO TRANSMUTE THE MATTER, may be given by **its capacity of producing hydrogen at relatively low temperatures** with the **support of the exhaust gases of the engine** to which it is attached, and the **hydrogen transmutation into other gases**, with occasional and consecutive changes of the elements, **causing an electromagnetic reaction of the physical field**, by an **elastic compression of these gases**. Since a starting mechanism of the process is determined, the calories wasted to set the engine into motion, which can be either conventional, gasoline or diesel consuming, or boilers, turbines, etc., are also **used to produce a fuel which will be re-used**.

Hence, one can say the REACTOR TO TRANSMUTE THE MATTER is **an apparatus to produce calories**. For example, if 2,000 Kcal (two thousand kilo/calories) is introduced in the REACTOR it will be **possible to multiply these calories by 100 (a hundred), 1,000 (a thousand) and even 100,000 (a hundred thousand)** according to what it is chosen to be used. The only **condition to have a progressive multiplication of the calories without problems is to provide a cooling apparatus** like the one used in combustion engines during operation.

Another important aspect of the process accomplished with the REACTOR TO

TRANSMUTE THE MATTER is the necessary obtention of the **molecules strike, as intensive as possible**. The bigger in intensity and molecules the strike is, **more calories will be produced** and consequently more potentiality it will have.

The REACTOR TO TRANSMUTE THE MATTER (Fig. 1-2), which is installed, in case of engines, between the carburetor (Fig. 1-1), already modified, and the engine block, **processes the fuels, or the hydrogen oxide**, before their admission in the engine (Fig. 1-3).

The outer side of the REACTOR must be conceived **to receive the gases inlet to the engine** (Fig. 1-3), the **exhaust gases outlet** of the engine (Fig. 1-5), which has a **ball to decompress the gases** (Fig. 1-5), and the feed back pipe (Fig. 1-6).

After innumerable experiments and **considering the velocity of the molecules**, the REACTOR TO TRANSMUTE THE MATTER has a **cylindrical shape** (Fig. 1-2 and Fig 2 - longitudinal section) with two or more tubes inside (Fig. 2-7) according to its use. These tubes are placed **leaving 5 to 10 mm between each other**, depending such variation on the dimensions of the engine or apparatus to which the REACTOR is attached. The width of the REACTOR will also be determined according to the type of engine or apparatus employed.

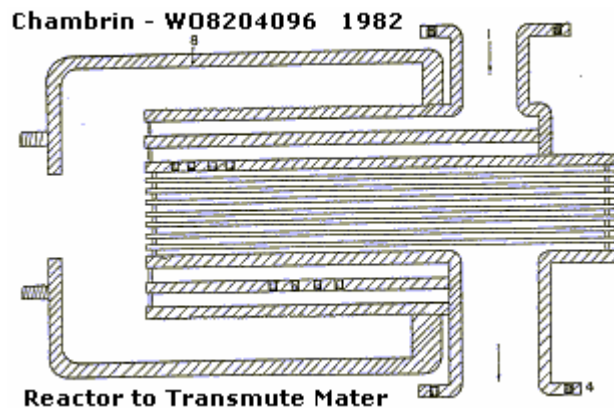
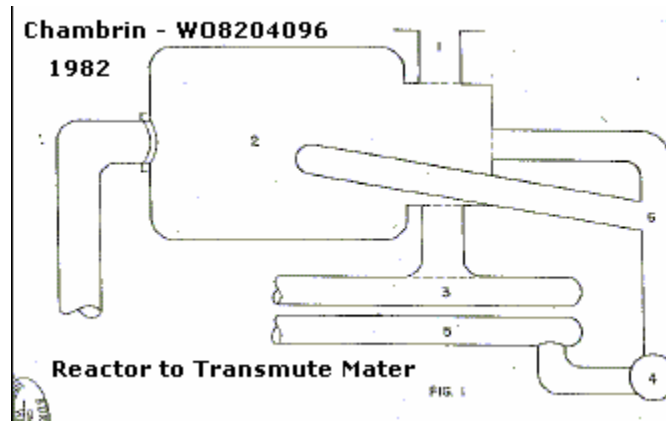
The builder of the REACTOR TO TRANSMUTE THE MATTER must consider in his calculations mainly the **production of hydrogen and of the several other gases** that feed the engine, turbine, boiler, etc.

The invention of the REACTOR TO TRANSMUTE THE MATTER has a cylindrical shape because it helps to **speed up the velocity of the molecules**. A shock barrier is placed Longitudinally (Fig. 3 - cross section - 9 and 10) to multiply the fractioning of molecules, intensifying, there fore, the calories producing process. On the other hand, it is also necessary a **constant pressure of the exhaust gases** next to the REACTOR (Fig.1-6) since in case of reducing the gases flux at the outlet the engine will become less powerful.

So, it is interesting to involve the REACTOR with an **obconical covering** (Fig 2-8) which maintains the gases balance and to insert a compressor ball of the gases at the outlet of the exhaust pipe of the original engine (Fig. 1-4 and 2-4). With this system it is possible to obtain a constant pressure of the gases without braking the engine.

The REACTOR TO TRANSMUTE THE MATTER must be endowed with a **thick metallic covering, considering the high internal temperatures registered**, made of a material with high thermal conductivity. Also the manifolds that go across this covering (Fig. 2-7) must be made of a material with a good thermal conductivity. Although various types of metals present such required qualities, the **different types of copper, in some cases**

even an alloy of bronze and brass, proved to better meet the demands of the REACTOR and to be more economic for construction.



The results achieved with the REACTOR TO TRANSMUTE THE MATTER are of great importance. Using a mixture of dihydrogen oxide and ethylic alcohol, equally proportioned in weight, as fuel to feed the REACTOR, it was identified at the outlet of the REACTOR (before its admission in the engine) 33 (thirty three) different gases, such as: ARGON, ALUMINIUM, COBALT, MOLYBDENUM, TECHNETIUM, RUTHENIUM, RHODIUM, PALLADIUM, LANTHANUM, THULIUM, ASTATINE, AMERICIUM and CURIUM. In addition, at the outlet of the exhaust pipe it was observed 46 (forty six) different gases. Among these gases it was registered: HYDROGEN, HELIUM, LITHIUM, BERYLLIUM, ALUMINIUM, CHLORINE, TECHNETIUM, RUTHENIUM, RHODIUM, BARIUM, LANTHANUM, POLONIUM, PROTACTINIUM, AMERICIUM, CURIUM, BERKELIUM and HAHNIUM.

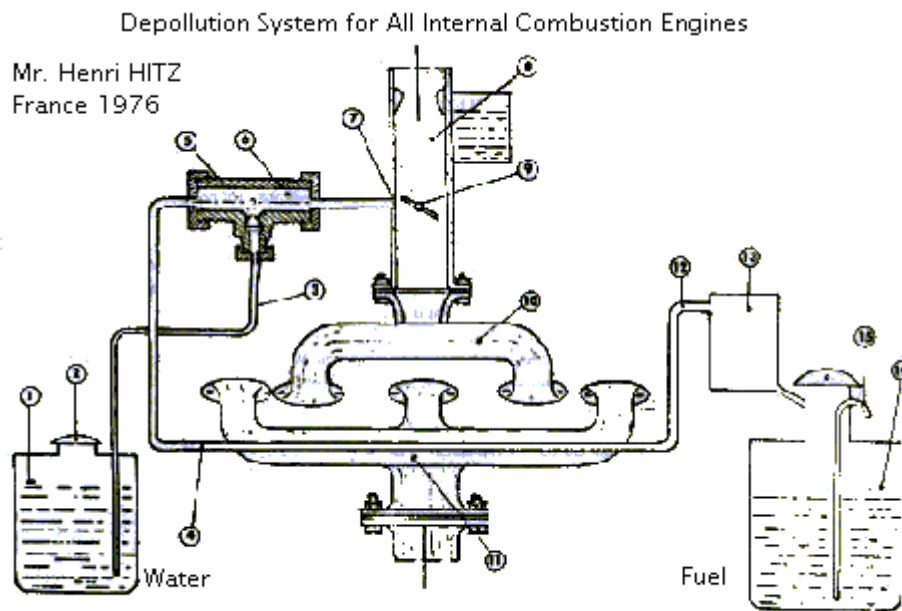
Three other gases which are in the group could not be identified according to the PERIODIC CHART OF THE ELEMENTS; Their numbers are 109, 111 and 131. It is interesting to remember that the PERIODIC CHART OF THE ELEMENTS classifies only till element No.105.

Another innovation of the REACTOR TO TRANSMUTE THE MATTER is the feasibility of

storing the exhaust gases and to send them back under a given pressure to the REACTOR, acting in this way as a compressor pipe. If this method is applied, it will have to be injected, for safety's sake, with an electronic injector or any other system, a minimum quantity of alcohol or any other fuel at each revolution of the engine. With this system, it became **possible to reduce substantially the consumption of carburant**. It will be necessary only one liter of alcohol or any other fuel to cover 60 km (37 miles). Or even set a stationary engine into motion with one liter of fuel, at 1,800 rpm (revolutions per minute), during an hour.

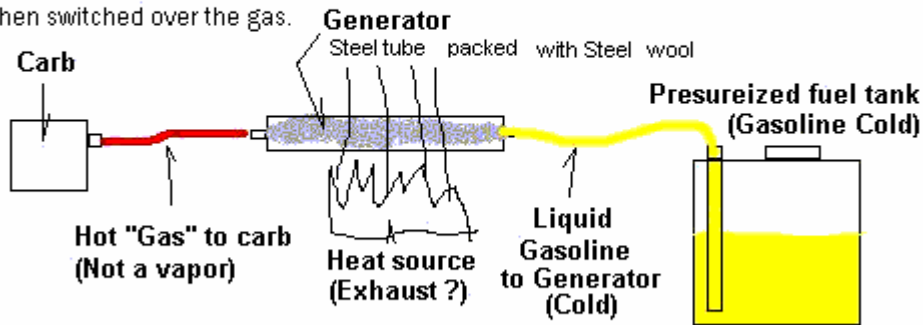
All references and information courtesy of http://waterfuel.t35.com/geet_plasma.html

1976, Henri HITZ , French, Patented in France 78,148,72 and in Germany 26,33,348.2, invented during WW2, system to save 20-40% of fuel, by adding water and methanol, and preheating the fuel.



Hot Gas Generator (For extended milage on any gasoline engine) alc 9-5-05

This system is very simple and has been used for many years in other applications. The generator is a steel tube that is packed with steel wool. Liquid gasoline enters one end, the heat converts the liquid gasoline into a gas and the gas exits the other end of the generator and is piped to the carb of the engine. The generator can be placed inside the exhaust system close to the engine. Engine starts on liquid gasoline and is then switched over the gas.



The idea behind this design is to break the liquid gasoline down to the smallest possible particles before it enters the engine. The only possible problem I see with it is upper cylinder lubrication.

- 2001, RENAULT (French car manufacturer), for a FUEL REFORMER SYSTEM using Water Steam:

The French patent in pdf http://economie.com/file/brevets/renault_FR2831532.pdf

SYSTEM AND METHOD FOR HYDROGEN PRODUCTION THROUGH CONVERSION AT HIGH TEMPERATURE WITH WATER STEAM FR 2 831 532 - A1 dépôt : 26.10.01.

Demandeur(s) : ARMINES ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS Association loi de 1901 — FR et RENAULT — FR.

Inventeur(s) : GROUSSET DIDIER, MARTY PHILIPPE, FALEMPE MICHEL et BOUDJEMAA FABIEN.

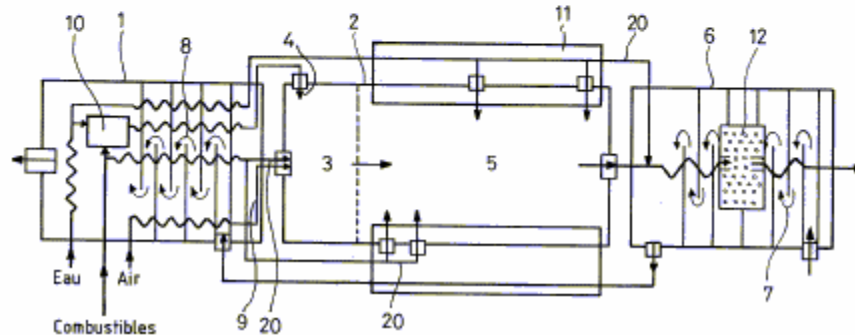
The invention is about a system to generate Hydrogen through the reaction of a fuel with water steam.

the system includes : - (1) a reactor where the water is vaporized and fuel and water steam are preheated - (2) a reactor to convert the fuels in a mix rich in hydrogen and Carbon Monoxide, through high temperature reaction, without catalyst, of the fuel with the water steam.

The reformer reactor (2) includes a first zone (3) where a part of the fuel and water steam are injected (4) at high speed. That the starting of the conversion reaction.

The converter reactor (2) has also a second zone (5) where the fuels and water steam will stay a time long enough for the reaction to reach the thermodynamic equilibrium.

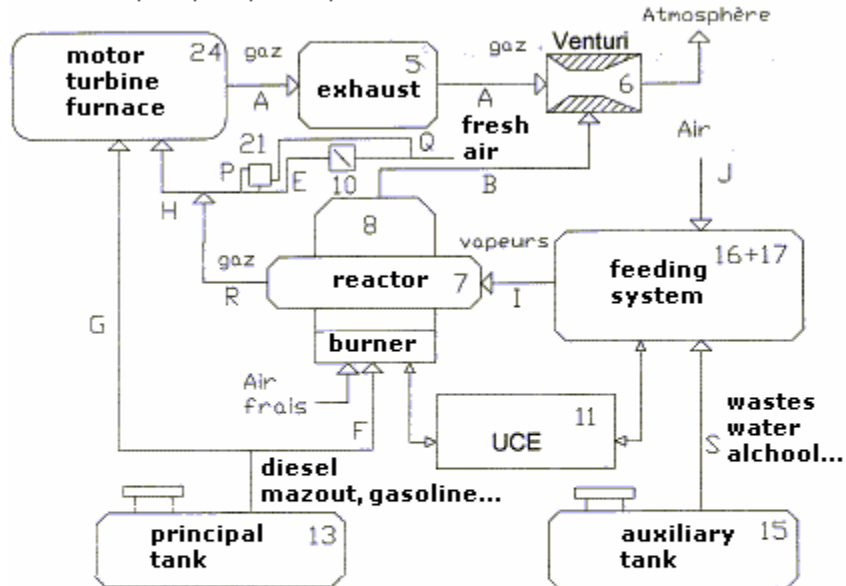
The system has also a colloing area (6).



2003, M. SALELLES and M. MARTZ, French Patent 2,858,364, enhance the GEET PANTONE system:

DISPOSITIF AMELIORANT LE FONCTIONNEMENT DES REACTEURS SYSTEM TO ENHANCE THE WORKING OF PHYSICO-CHEMICAL REACTORS/CONVERTERS USED ON THE FEEDING LINE OF ENERGY TRANSFORMATION SYSTEMS, AND ESPECIALLY OF ICE ENGINES.

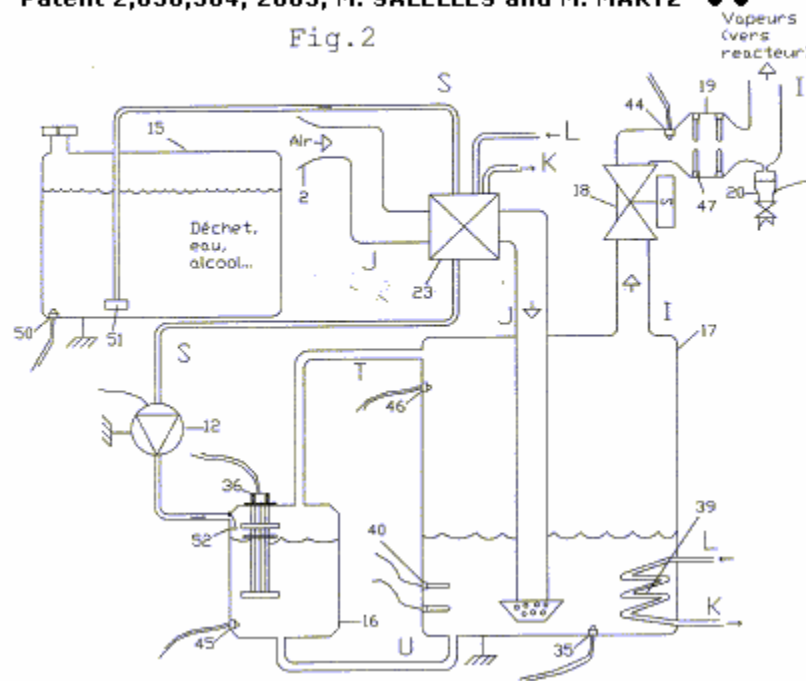
Patent 2,858,364, 2003, M. SALELLES and M. MARTZ ●



The invention is about a system controlled through an 'electronic unit control' (11) called UCE.
 This system is made of a specific fuel burner (8) that is used to bring up and maintain the temperature of the reactor (7) at a predetermined value.
 This system is also made of a double evaporator (16/17) feed in fluid that can be combustible, at level, pressure and temperature stable to produce a gas feeding the reactor (7); the reactor is working under an adjustable vacuum, through the clapet (10) and a pneumatic valve (21) fitted on the feeding line (E) of the ICE (24) or other system for energy conversion.

**DISPOSITIF AMELIORANT LE FONCTIONNEMENT DES REACTEURS
 SYSTEM TO ENHANCE THE WORKING OF PHYSICO-CHEMICAL
 REACTORS/CONVERTERS USED ON THE FEEDING LINE OF ENERGY
 TRANSFORMATION SYSTEMS, AND ESPECIALLY OF ICE ENGINES.
 Patent 2,858,364, 2003, M. SALELLES and M. MARTZ ●●**

Fig.2



**DISPOSITIF AMELIORANT LE FONCTIONNEMENT DES REACTEURS
 SYSTEM TO ENHANCE THE WORKING OF PHYSICO-CHEMICAL
 REACTORS/CONVERTERS USED ON THE FEEDING LINE OF ENERGY
 TRANSFORMATION SYSTEMS, AND ESPECIALLY OF ICE ENGINES.
 Patent 2,858,364, 2003, M. SALELLES and M. MARTZ ●●●**

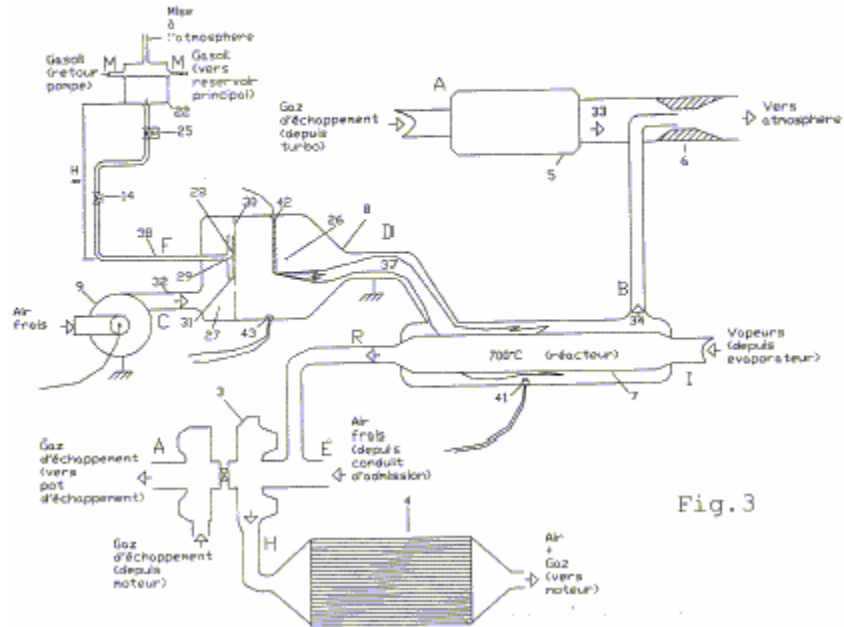
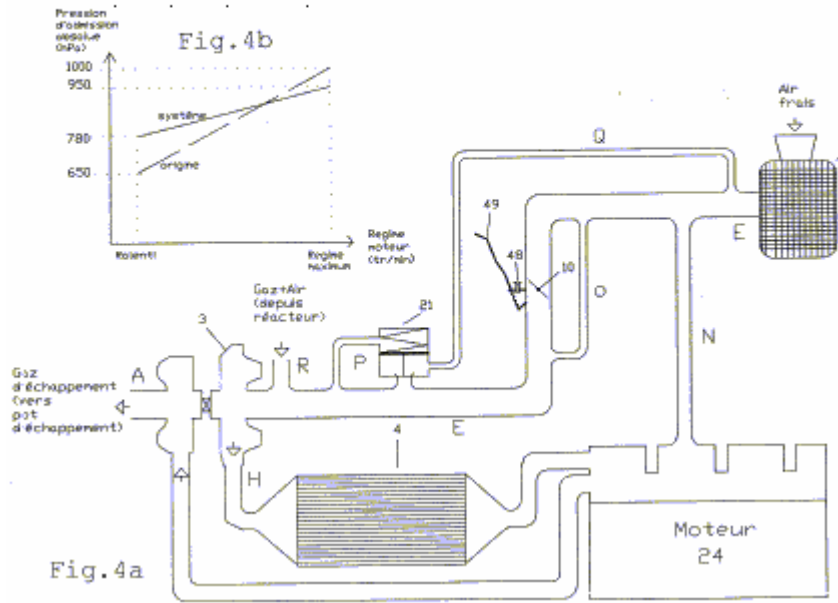


Fig.3

**DISPOSITIF AMELIORANT LE FONCTIONNEMENT DES REACTEURS
SYSTEM TO ENHANCE THE WORKING OF PHYSICO-CHEMICAL
REACTORS/CONVERTERS USED ON THE FEEDING LINE OF ENERGY
TRANSFORMATION SYSTEMS, AND ESPECIALLY OF ICE ENGINES.
Patent 2,858,364, 2003, M. SALELLES and M. MARTZ ●●●●**



GEET Patent on KEELYNET, by Peter T. Michel, GEETofPA@aol.com, Sun, 20 Jun 1999
<http://www.keelynet.com/interact/archive/00000363.htm>

As far as the GEET, I decided to build one myself, and it worked great! I ran it on a 4.0 HP Briggs and Stratton on a lawnmower. I was able to run it on **5% gas, 5% oil, and the remaining 90% was a mixture of pickle juice, jalapeño juice, Sprite soda, and water**. I was actually able to run it in a closed-loop as well! The entire exhaust fed back into the intake and I could shut down any outside air, and it worked great! On one model, it ran silently in a closed-loop except for the sound of the valves opening and closing. That kind of freaked me out, but it was cool as anything to witness!

I also recently testified in Philadelphia at the EPA hearings for Tier 2 emissions standards and spoke of what the GEET has to offer. I had an excellent reception from people, particularly people from various environmental organizations.

At the **Conference on Future Energy (COFE) in Bethesda, MD**, I and a couple of friends demonstrated another GEET mower running on a **mixture of black coffee (delicious hotel made), Mountain Dew, and about 20% gas**. The emissions ran so clean that several people held their faces to the exhaust and breathed deeply with big smiles on their faces. And I have it on videotape to prove it!

So, **does it work? I'd have to say, yes, definitely**. I've been experimenting with different designs including a double reaction chamber, but am not getting good results. **I asked**

Paul about this and he said that the greatest reaction occurs when you have the coldest possible fuel vapor, and the hottest possible exhaust, going in opposite directions in the chamber. I'm going to play around with refrigerants that boil at low temperatures and see what happens.

The clearances also need to be very small in order to have the greatest acceleration. Essentially, the cold vapors (best when closest to 32 degrees F for most fuels) heat up to around 900 degrees F in an instant as they accelerate up the rod, effectively annihilating its molecular (and atomic?) structure. I couldn't help but notice the similarities of what is happening in the chamber, to the elements necessary for elemental transmutation as described by Walter Russell. Indeed, there is a transmutation happening of some type as mass spec tests performed at Brigham Young Univ. showed 73 elements entering the chamber and only 13 elements coming out! -- With a new one that they've named Pantonium! Most of the fuel that comes out of the chamber is hydrogen making it a very clean burning fuel.

The best fuel they found was a mixture of 80% seawater and 20% crude oil. In an ideal reaction, the reaction is endothermic in nature and has actually caused frost to form on the muffler. Also, using this "fuel" mixture and having an ideal reaction, they were able to obtain mileage increases that I cannot even mention here. But, let's just say, it was WELL OVER 25 times the mpg! (Due to pressures and dangers from the "darker side" the production model will only provide 2-3 times the gas mileage. Paul already had his brake lines cut, his car blown up, and his house burned down, because some stupid TV news reporter told the world that he was ready to put the oil companies out of business!)

Some interesting things were noted with the steel rod inside the chamber. Namely, it takes on magnetic properties that can actually indicate the latitude where it was last run. Also, concentric rings form on the rod and each seems to have its own magnetic polarity. Together, these rings seem to comprise a magnetic signature that has to do with where the chamber is situated with respect to the earth's magnetic field, and the type of fuel being used. When first running the chamber, Paul says that you need to "burn in" the rod's signature. You do this by pointing the end of the reaction chamber from which the exhaust is entering, towards magnetic north. Then, by running the engine for at least 20 minutes that signature is burned into the rod. Then, you can run the engine anywhere without any problems.

GEET also has a new water machine that can create 200,000 gallons of pure water every 24 hours, even in dry desert conditions, using only a 10 HP engine. Imagine turning dry, barren desert land into green, fertile farmland. Now, using a GEET fuel processor on the generator, you can fill it up once a day and just let it keep running out

in the middle of the desert!

I feel like I hit pay-dirt with GEET. **They have over 400 inventions from inventors all over the world** who just want to keep inventing and want to leave the marketing to GEET management and their worldwide distributors. I asked many people what they thought about GEET and Paul Pantone prior to diving into this and they all had positive things to say.

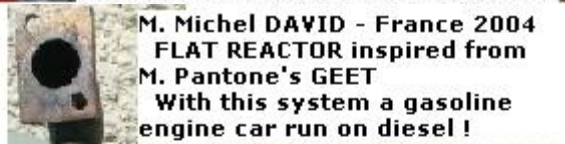
2004, Michel David, France, a gasoline genset running on diesel, through an original small mechanic 'reactor' inspired by the work of Paul Pantone.

<http://perso.wanadoo.fr/quanthomesuite/ge5Michel%20David.htm> (Link no longer active.)

On the short film to download on the webpage, you'll see that there is **no fumes at the exhaust** when starting the group with gasoline, and also no fumes when it's switched on diesel... absolutely no changes in RPM or noise when the gasoline genset runs with diesel. Michel David, Hervé F., Michel Schmit, Bernadette and Jean Soarès (famous webmasters of www.quanthomme.com) are present on the video

Explication: Starting with a standard Pantone Reactor, M. David had the idea to create a **flat reactor**, where are fitted 5 spaces of 0,75 mm, that **replace the rod and internal tube on a GEET**, what gives a large surface of friction for the gasses accelerated by the rotational obturation system made by M. David at the air intake. M. David used copper pipes that he pressed to make them flat, with a metal saw blade inserted inside to keep the desired space.

Any fuel is passed through a modified carburetor that pulverized it, then through the reactor to the engine, where it arrives as gas. **It's easy to run any genset with diesel**, with or without adding water. It needs a very good vacuum at the intake side, that's why M. David uses a homemade rotating obturator **to increase this vacuum effect**. This system very easy to make by any professional, can be mechanic or with a progressive action for the opening-closing of the holes to obtain a soft feeding following the needs of a vehicle's engine.



[Reference](#)

The GEET Fuel Processor is a Self-Inducing Plasma Generator by Paul & Molley Pantone

The first working prototype was developed long before the technical analysis was attempted. Plasma research is a fairly new field of acceptable science. At this time most printed text is from foreign Countries, and a majority from Russia.

The technology used in the GEET Fuel Processor is a combination of the most basic scientific principles, most of which falls within the normal rules and of thermodynamics. But some of the 70 simultaneous phenomenon's are not found in those books, since it is the combination of events, which is the body of this discovery. Put quite simply, the exhaust heat is transferred to the incoming fuel vapor, which must be maintained in a

vacuum, and the overall configuration provides a molecular breakdown within the vacuum of all of the heavier elements. Therefore, intensifying the vacuum, the speed of molecular breakdown or reaction is magnified, and less heat is required.

The GEET Plasma unit generates several "electrical" fields at the same time while operating, some of which are in opposite direction and all are affected by the direction of mass movement as well as by the gravitational field of our planet. During lectures from coast to coast Paul and Molley have explained that it is frequency and vibration that determines the amount of plasma or energy being developed. Research in private laboratories in Europe is helping to isolate some of the basic field replication of the plasma generator that the Pantones need for visible demonstrations.

Many attempts to use the external electrical mechanical devices to enhance the production of Plasma in the GEET Fuel Processor have all failed to show any promise, such as the Plasmatron. This has occurred because the outside interference has opposed the "natural" order of the energy, which must be self generated to maximize the results, as well as will increase the charge-discharge at specific needs of demand of the Plasma - or GEET GAS. It should also be noted that using outside non-natural heating diminishes the fields which are normally self generated.

The specific movement of vapor within the GEET Fuel Processor is "focused" to exact flow direction and velocity being self created thereby maximizing and intensifying the "field and enhancing the molecular, or atomic disassociation. Without all other natural elements increasing to equal proportions, one cannot expect that merely increasing the Arc-Field will be the main reason for specific success of any given substance to be broken down to its base elements. When the ideal Plasma has been created is the time to begin increasing or decreasing all parameters involved at their respective equal or balanced increments to satisfy an increase or decrease in the Plasma flow. In doing so one can increase the Plasma flow to a viable delivery state for use of all commercial use demands. During tests the over-revving to engines has startled engineers and scientists from around the world, as engines are sped up to over twice the normal rpm, and slowed down to a fraction of their normal idle speed, with no noticeable vibration. Have you ever seen a 350 Chevrolet idle at 80 rpm? We have.

All of the currently studied Plasma generators basically share a design and operational feature in that they attempt to push the Fuel, under pressure, into a reaction, whereby a need for outside energy to force the device to function. The most unique feature of the GEET Plasma Fuel System is that by supplying the fuel into the Plasma chamber in a vacuum and through a longitudinal, natural release, causes a Radial reaction which is self induced, which creates energy as electrons are pulled into the reacting of plasma, instead of consuming energy. Thus the Plasma becomes more "homogenized" with atmospheric air, causing a well-blended fuel for final delivery.

An additional stabilizing feature within our system is the natural circulation of opposing masses as a vorticular motion within the Plasma Field, a condition as described by Molley Pantone as Thermal momentum-or Inertia. Such field is caused in part by the chamber beginning before and after the Field zone. The size of the Field zone must coincide with the fuel and parameters with specific limitations, dependent on the fuel demand. Now we should also explain that a small unit, such as a 10 hp engine can be used as a "servant" to produce fuel to be used by an un-modified larger engine or furnace, by adapting pumps and only modifying the air intake only. Thus a 10 hp engine could make the fuel for a locomotive. The exact length of the Plasma chamber need be adjustable to fully accommodate rapid change of fuels when different blends are being used. This is quite simple but requires some very expensive equipment for analysis of the final exhaust for the average mechanic.

The "balance" point of a perfectly adjusted GEET Plasma reaction chamber, will give the same temperature coming out of the exhaust pipe as the ambient air, as well as the air quality should be the same or a slight increase of oxygen coming out of the tailpipe. So far the inventor has accomplished a 2% increase in oxygen coming out of an internal combustion using crude oil as fuel and a 3.5% increase using Battery acid mixed with 80% saltwater. At the higher than ambient oxygen levels you normally find ice forming on the exhaust pipes as a normal function of this phenomenon.

When the Plasma field chamber is too short or too long for the density of the fuel being used, it overheats the South end and Chills the North end of the reactor, this also causes the field to consume oxygen, instead of creating it. The direction and configuration of the heat source is critical to the proper balance of the reaction to create Plasma. We have now learned that down is the same as South in relationship to using a compass, and therefore North is up.

Other Plasma generators, such as the copy cat from MIT, which they call the Plasmatron, uses outside applied power to create heat to run the units, but have extremely limited use and output, when compared to the GEET system. Since the power output of Plasma is constant and generates power we can only assume that it is of a DC nature and is a constant output which we have not yet attempted to harness. (hopefully coming soon.)

There will be a large number of reports dating back to 1984 that the inventor was not ready to release until he felt the timing was right. He feels the timing is now right and these will be posted as soon as possible.

The Geet fuel processor may soon make it possible for you to own the ultimate home production power plant... one that heats your water, generates electricity, takes care of heating and air conditioning, simply by utilizing waste heat from refrigeration and

applying it to storage or hot water, while the generator is giving you all the electricity you want.

In simple definition, the GEET Fuel Processor could be called a new type of carburetor with a miniature refinery built in. With it, There is no need for catalytic converters, smog pumps and many other costly items on cars , as the GEET fuel processor is not just a fuel delivery system it is also a pollution elimination unit! Your mileage will be greatly increased if you are truly consuming ALL of the available energy From whatever fuel you may be using.

I began working on the original concept of better mileage over fifteen years ago, During the fifteen years of testing and research, I was able to achieve the goals of ZERO pollution, while running internal combustion engines on fuel such as crude oil, battery acid, cleaning solvents, even gasoline... some of the tests were done with mixtures with as much as 80% water IMPOSSIBLE??? SEEING BELIEVES!

Having demonstrated the GEET Fuel Processor countless times, I heard over and over " that's impossible." Most of the hundred scientists who have been invited to help in this project have refused to even come out to look at it, claiming it is impossible. Yet after repeated showings, many potential financial backers have depended on the professional opinion of qualified people, who did not even take the time to even look.

One scientist -Jim _ who wanted to help me was employed at a major United States Testing Laboratory. We spent several days reviewing how and why the device worked. Jim claimed he could get all the necessary funding to get through the R&D stages by telling the other scientists at work what he had viewed, Jim told me to call him at work the following Wednesday.

When I , called the number I was informed that Jim was asked to resign. They told me that Jim must have been doing some drugs, if he truly believed that he saw a gasoline engine run on crude oil with no pollution.

This type of response is very normal to this inventor. Many sincere people have turned their backs and walked away, because of the input of knowledge of others who laugh and say it is absolutely not possible.

However, a few years ago , at a smog certification station in California, this fuel system was demonstrated while being monitored and videotaped. While running a gasoline engine on crude oil, the final exhaust was actually cleaner than the air in the establishment --zero pollution. This does not defy physics; it only operates within the most basic laws of physics in a unique manner. Basics of GEET technology

The GEET fuel processor is a self inducing plasma generator. In my case, the working proto type was developed long before the technical analysis was attempted. Plasma

research is a fairly new field of science. Most of the available text on this subject is from foreign countries.

The technology used on the GEET fuel processor is a combination of very basic scientific principles which fall within most of the normal rules and laws of thermodynamics.

Put quite simply the exhaust heat is transferred to the incoming fuel, which is in a vacuum, and the overall configuration provides a molecular breakdown within the vacuum, the speed of the molecular reaction, or breakdown, is greatly magnified. The GEET Plasma Generator

The phenomenon which occurs within and around the GEET Fuel Processor can best be described as controlled lightning. As masses of cold and warm air colliding, an electrical discharge occurs. The specific lengths of each colliding mass determine the type and the amount of discharge.

It can be a bolt of lightning, or if the configuration of masses is conducive to a radial type of discharge it may appear as a ball of energy. Many discharges of this nature are so small they are not visible to the human eye. Others are magnified by moisture and radiate in an energy field which is visible as colored light.

When the electromagnetic field is radial as well as longitudinal, and balanced to create the center of the plasma reaction, maximum efficiency of the field is accomplished. This is done within the GEET Fuel Processor, as the plasma is created on demand. Using a steady self generated magnetic field one does not have the problem of random Plasma clusters, as every molecule is held as a constant potential contributor to the demand and the demand controls the field which stabilizes itself within a specific ratio.

The elemental components of the GEET Fuel Processor allow the transfer of virtually all the generated heat into the plasma, which further stabilizes the electromagnetic field, as well as increases the electron flow at any specific need, on demand.

In the GEET device the plasma fields is generated internally. Many attempts to use external electrical mechanical devices to enhance the production of plasmas in the GEET fuel processor, have all failed. This has occurred because the outside interference has opposed the "natural" electromagnetic field, which is self-generated in the GEET fuel processor. Thus the entire magnetic field collapses and entire system shuts down.

In conventional generators, the means of introduction of the magnetic flow is perpendicular or angled to the plasma tube through wave guides; the effectiveness is diminished due the turbulence created. By simply changing the position of the electrode to the center of the plasma field, the turbulence is eliminated, thus more

usable energy is created. Furthermore, less extraneous equipment is used to produce and control the plasma.

The movement within the GEET Fuel Processor is "focused" to the specific flow direction of the Plasma being created, thereby maximizing and intensifying the magnetic field and enhancing molecular, or atomic, disassociation.

Without all other elements increasing to equal proportions, one cannot expect that merely increasing the electric arc/magnetic field will be the main reason for specific success of any given test. When the ideal plasma reaction has been created is the time to begin increase or decreasing all parameters involved at their respective equal, or balanced, increments to satisfy an increase or decrease in the plasma flow. In so doing one can increase the Plasma flow to a viable delivery state for commercial use. Plasma Flow

All the current studied Plasma generators basically share a design and operational feature in that they attempt to PUSH the Plasma chamber. One of the unique differences of the GEET Fuel Processor is that reduced pressure (vacuum), PULLS the Plasma, which enhances the homogenization of the newly created fuel.

An additional stabilizing feature within our Plasma unit is the recirculation zone is through and beyond both ends of the magnetic field, thus intensifying and further stabilizing the plasma. The size of the recirculation zone needs to coincide to all other parameters within specific limitations- depending on the fuel source-and demand at any given time.

The exact length of the Plasma generation chamber needs to be fully adjustable, to compensate for changes in the molecular density or massive expansions of the fuel being used for Plasma. An example of this would be when 20% battery acid is mixed with 80% saltwater and used as fuel; it needs a shorter Plasma chamber than the one needed for Alaskan Crude Oil.

If the same or larger unit is chosen for the acid mix, the normal running temperatures are exceeded, and the balance of the plasma field is at its optimum performance when ambient air and the final discharge are at the same temperature, and air quality at both points are equal.

When the plasma field tube is too short or too long for the density of the fuel being used, it overheats the high end or forms ice on the low end, respectively. This characteristic is further evidence by numerous tests. When pollutants are noticeable there is an imbalance.

The direction and configuration of heat applied, was made on many of the prior units to formulate conclusions. The specific natural flow of self generated energy which does create its own fields (outside of lightning, and natural phenomenon).

Other plasma generators using outside applied power seem to have less technological reason and practical use than the GEET fuel processor which requires no outside power. Since the energy field which is radial and longitudinal, as well as self generated and constant, we may assume that the current-voltage characteristic of the GEET plasma field is a pulsating direct current. New Theories Needed

With the proper team of open minded scientists, this technology should be easily understood. since prototypes already exist. A few months ago, when the inventor invited scientists from all over the country, to help in compiling a reasonable theory or formula for why the invention works, he found very few takers.

One scientist, Dr. Andreas Kurt Richter, spent most of a week at the inventor's home as a house guest. There were hours of discussion on physics and unknown phenomenon. In a letter, dated July 3, 1995, Dr. Richter states, I am a consultant to Paul Pantone in the search for the scientific and technical explanations to understand the operation of this energy device. According to my present knowledge it should not work and I would not believe it had I not seen it with my own eyes. It is my opinion that Mr. Paul W. Pantone has invited an amazing energy device or engine with potential as yet unheard of.

Another scientist, Dr. Grant Wood, has similar comments. Dr. Wood has taught automotive science for most of the last 35 years. I am still seeking scientists, doctors, manufacturers, and all other professionals to assist me, not only in this but hundreds of other inventions and products and concepts. Testing

Getting testing done or the interest to get them done at such places as Lawrence Livermore Laboratories, Southwest Research Laboratories Universities, etc., is difficult. First you must convince them it works, and then have a ton of money. These laboratories have expressed that testing would be a waste of money, and their valuable time. Most simply do not understand this device.

To get testing done, the inventor went to numerous companies including Cooper Industries, Briggs and Stratton, Waukesha; (this list is quite long), and in most cases these industries were not interested, even though many sent representative out and can convey that the prototypes did in fact work. At first, most of the tests were accomplished on small internal combustion engines. Combustion studies were done in furnace applications to enable the inventor a better fuel study.

In 1983, I approached the small engine manufacturers in an effort to gain knowledge and technical support. Up to this point I had used old beat up equipment for most of

my testing. Briggs and Stratton was the only company willing to discuss such technology which is advanced, they wanted to be the first engine company to go public.

A few years later in 1987, I did go to Wawatosa, Wisconsin and ran this engine, hooked up to their testing dyno. These test were done on crude oils, gasoline, and fuel oils, mixed with water. They knew the engine worked and would be controversial and suggested that I try to market the device the device in third world countries. I still want to market the device in the United States first.

A few test engines have been tested in cars. Now a 240 kW Waukesha Generator (Model #H2475) has also been retrofit with the GEET Fuel Processor and the only thing needed to get this into production is automatic controls and money. A Pollution Solution

Many have asked what the true value of this technology is. To being with, please place a value on what would it be worth, in dollars and cents, if you could just double the mileage/performance on every car, truck, locomotive, ship, furnace, boiler, hot water heater, etc., not to mention reducing pollution, on a world wide application? The truth is that if you only disposed of some forms of toxic waste, it would be invaluable to man. And if you generated energy from raw crude oil, without the need for refineries, this would satisfy many countries all by itself.

Although the automotive field is very large, our global buildup of toxic waste has become my first choice for production. This can be accomplished in a reasonably short time by installing electronic controls to the necessary control components.

Utilities and communities can greatly benefit from the GEET Fuel Processor, while running power plants, desalinization plants, pumping plants, etc., all the while getting paid to take toxic fuel to run the plants. When toxic waste is transported from coast to coast there is always a danger of accents, and by locating toxic disposal units throughout the country this will shorten the risk and distances traveled, providing more safety to the public.

For you,
And the World,
Paul & Molley Pantone

Faculty information

You Tube educational video series.

[GEET Water Fuel Plasma Reactor Chamber Explained Part 1](#)

[GEET Water Fuel Plasma Reactor Chamber Explained Part 2](#)

At heart of the Multi-Fuels Processor of GEET is a self-inducing plasma generator or a plasma reactor with an endothermic reaction. The endothermic reactor is composed of two coaxial steel cylinders:

- the interior cylinder (threaded at each end), called the pyrolytic chamber (430mm length and 15mm of inner diameter) contains a steel rod of 300mm length and 13mm of diameter (not magnetized before the burning-in). A side of this steel rod is round in order to identify its magnetic polarity after its disassembling. The rod is maintained in the center of the pyrolytic chamber with to 3 small nipples welded at each end.

- the external cylinder (threaded at each end) is a steel tube of 300mm length and 26mm of inner diameter. The two cylinders are placed coaxially with two reducing T (showed on the diagram below) placed at each end. The bubbler is a tank containing a mixture of water and hydrocarbon (gasoline, diesel, kerosene, crude oils and others derived from hydrocarbons...).

The hot gas flow coming from the exhaust of the engine circulates by the outside part of the reactor with a strong kinetic energy, that contributes to bring up to very high temperature the steel rod (being used as heat accumulator) contained in the pyrolytic chamber. The gases cross the engine and penetrate then in the bubbler containing the water/hydrocarbons mixture. The vapor of the mixture is strongly aspirated by the vacuum created by the engine intake and is pushed by the pressure coming from the exhaust. The kinetic energy of the vapor is increased considerably by the reduction of the diameter in the pyrolytic chamber (by Venturi effect). The combined effect of the high temperature and the increase of the kinetic energy produces a thermo chemical decomposition (molecular breakdown) of the water/ hydrocarbons mixture.

The endothermic reactor forms an Electro-Plasma-Chemical unit (EPC) and it is now possible to create a high-output fuel coming from the decomposition of the water contained in the water/hydrocarbons mixture. This fact is confirmed by the presence of oxygen gaz (O₂) in great amount measured in the exhaust.- [Reference](#) End.

Mr. Pantone's invention is to recover energy lost through the exhaust (exhaust cold at fuel processor outlet) and to recover it *into a form that is directly convertible to mechanical energy by internal combustion engines*. The GEET processor produces some sort of highly efficient fuel from various mixtures. In the tractor case, this is an air and water vapor mixture. The GEET processor seems to produce a gaseous fuel using the exhaust heat as energy source. This fact is demonstrated from the following: The exhaust gases at the outlet of the GEET processor are largely colder that at the inlet.

It can't be a simple gas heating effect through the processor. In fact, heating the inlet

gases before motor intake dilates these gases, thus reducing the amount of combustible mixture entering the cylinder as the engine always sucks in a constant gaseous volume. Heating the inlet gases thus reduces the motor power. In contradiction, the power of retrofitted engines is augmented for reduced fuel consumption.

Mr. Martz's calculations demonstrate that the water cracking into oxygen and hydrogen in the GEET processor does not produce enough energy to explain the fuel consumption reduction. It is possible that other gases present such as nitrogen are also modified in the GEET.

Note that there is no energy generation in the GEET fuel processor: there is only an efficient recovery of the energy normally lost in the exhaust. The recovered energy serves to modify the chemical composition of the gases inside the reactor.

Gases produced by the GEET fuel processor are stable, as the engine intake is somewhat far away – up to more than a meter from the processor outlet to the actual combustion in the engine. If they were unstable composites or molecules, they would decompose or recombine in the piping before reaching the engine. From this reflection, free atoms such as single atoms of hydrogen, oxygen or nitrogen (H, O and N) might not be considered. Or they could be precisely the answer: the GEET fuel processor would produce free atoms which recombination would liberate much more energy than the simple combustion of hydrogen molecules with two atoms (H₂) with oxygen molecules also containing two atoms (O₂). The heat of combustion used by Mr. Martz is the one of the usual hydrogen combustion reaction: $H_2 + O_2 = 2 H_2O$

Another important element is that the engine efficiency increase can't be provoked by water vapor's presence. As a matter of fact, water vapor present at the motor intake dilutes the combustible gases (fuel and oxygen), thus reducing temperatures and pressures in the cylinder and therefore the engine power and efficiency. Moreover, the water vapor presence increases the compression work; calculations of Mr. Martz indicate that the compression work is greater than the energy recovered by the expansion work (negative balance). An engine's behavior is normally little affected by the air humidity: dry or humid air does not make much difference. **There is something else going on in the GEET fuel processor, something still to identify.** –End.

"**GEET Pantone study** : Final engineer studying project for ENSAIS (Ecole Nationale Supérieure des Arts et Industries de Strasbourg) Diploma by C. Martz. November 24th, 2001. <http://quanthomme.free.fr/pantone/martz>

"**Design of a testing ground and characterization of P. Pantone's GEET process based on**

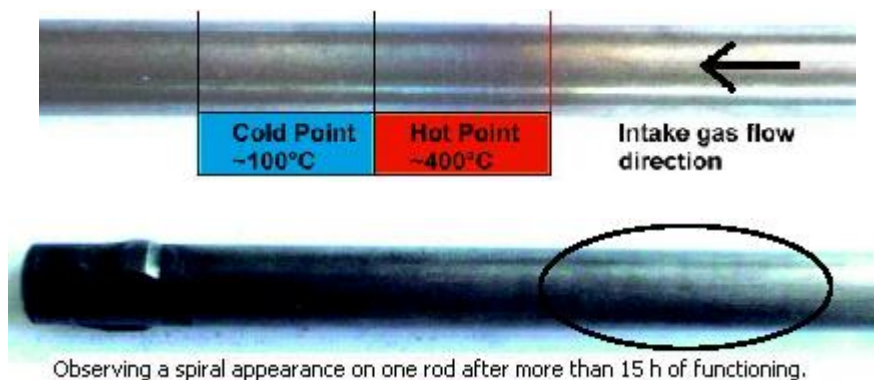
hydrocarbon conversion" This testing ground has been built **to characterize the GEET process** by measuring definite points as, for instance, the specific consumption (i.e. output) ,different flows, temperatures, pressures, H₂/O₂ gas analysis...



The **fall of pollution on CO and HC (un-burnt) is remarkable**. Furthermore on carbon gas the pollution is falling with the motor's charge (40% to 70% of diminution). Maybe the conversion reaction is **more efficient when the motor is loaded** (that means exhaust gas are hotter).

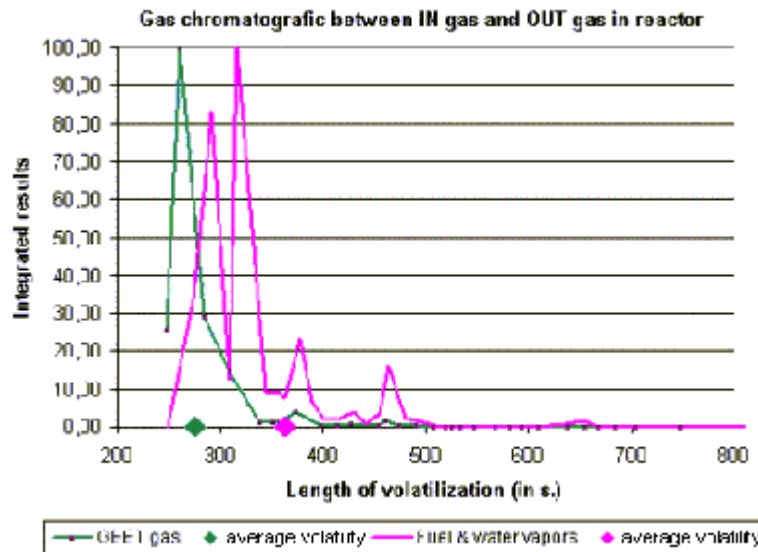
At this time **we don't know where the rest of carbon is**: a classical gas or fuel combustion give 14 to 16% carbon gas (CO+CO₂), with GEET we are at 6%maximum (only CO₂), which means that **quantity of carbon are missing in exhaust gas**...I hope that further experiences would solve this problem and say where is the carbon.

After a few hours of functioning, we have noted some interesting remarks on some rod (we got 9 rods of different dimensions): Observing a **hot point** on the cold side of the rod. A cold point is just after this hot point which shows that the **reaction has inner-reaction high temperature**. I mean this hot point does NOT come from exhaust gas high temperature.



... But if really it is not hydrogen, the GEET gas is **certainly a high hydrogenous gas**

(smells of ether) which got the energetic advantages of hydrogen. **GEET gas coming out of reactor is more volatile and simple** than the fuel and water vapors coming in. Then it is **sure than there is a gas conversion in the reactor** but the obtained GEET gas must be exactly definite... **GEET gas is still unknown**, it MUST be analysis by other ways (chemical, spectral...).



- **SPECIAL DELIVERY from FRANCE:** Le GEET c'est GENIAL ! (GEET it's GREAT !)

Ion Vortex Theory, Marc C., Nov. 2006, original pdf in french:

<http://quanthomme.free.fr/qhsuite/imagenews06/theoriechampmarc281106.pdf>

and also see <http://quanthomme.free.fr/qhsuite/separionfluidmouv.htm>

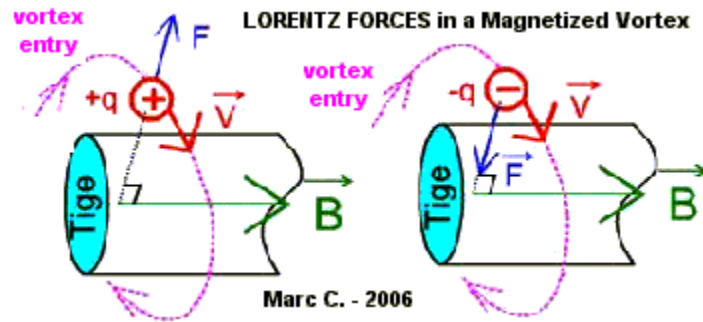
REMARK: need technical translator for this 24 pages document, really very interesting ... here I can only put some schematics.

A study on the Pantone Reactor. All info and schematic are given in the Public Domain by their author.

Extracts: The **LORENTZ forces** are almost not discussed in high school, they are just to introduce those of **LAPLACE** : we **abandon the 'charged particle', to replace it by 'an electric current in a conductor'**. Big mistake:

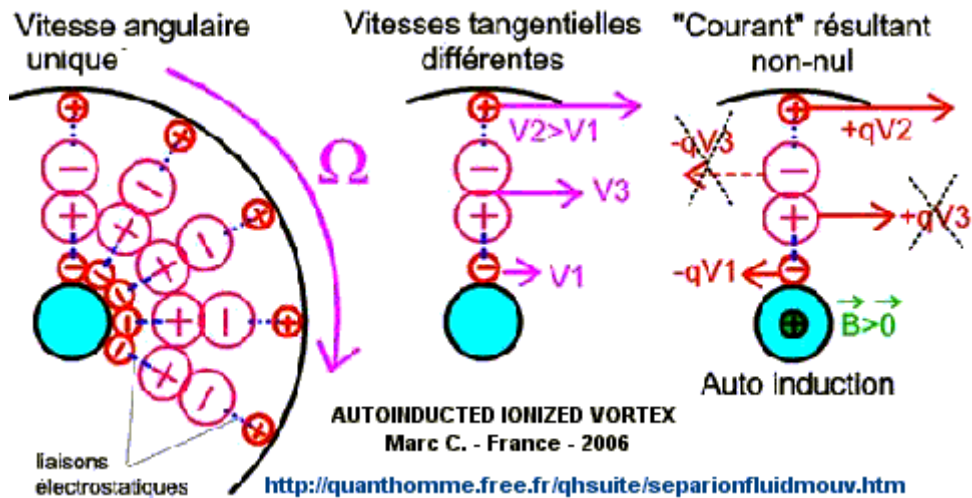
- An **Electron moves at only 2.16 kmh** in the copper; we could follow it by walk ... with good eyes!

- An Positive or Negative **Ion moves at 800 kmh** ... 370 times faster than an electron! The main difficulty is to **control and canalize the Ions** that are just willing to 'fly away' ; that where the Vortex is interesting ...



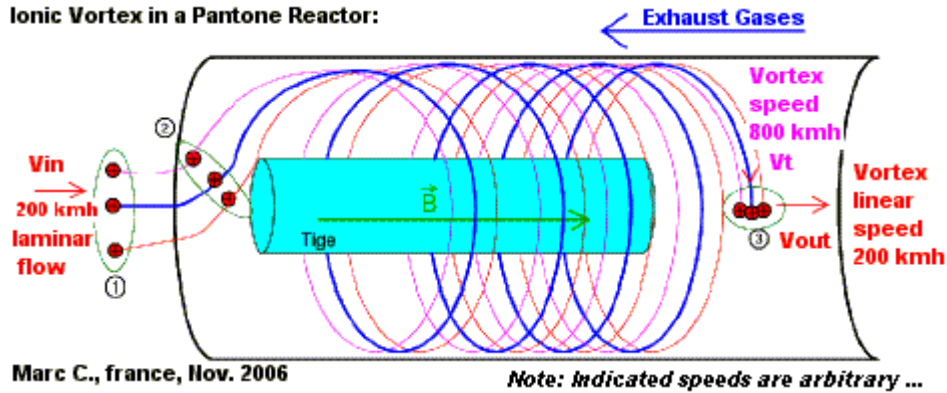
It took me 5 years to take seriously the Pantone's patent. How could I expect that my readers believe immediately in this theory. We must let time for reflex ion and experimentation first .

A good example is the **Law of Coulomb** that every good student memorized: " the opposite signs are attracted, same signs repel" How many learned that it is sometime the opposite, the Electrodynamics Forces (Lorentz ones) surpassing those of Coulomb? Could my theory re-establish at least this notion of DUALITY, ever existing in Physics.



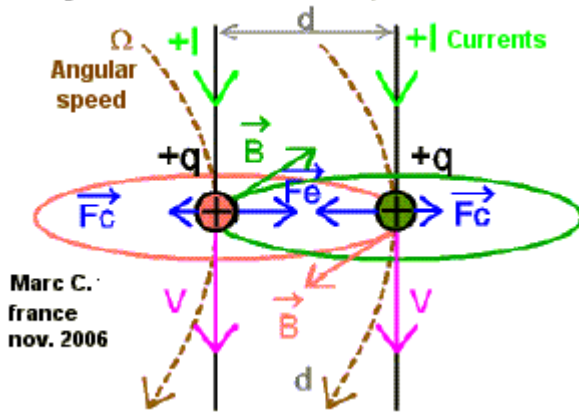
Ionic Vortex in a Pantone Reactor:

Ionic Vortex in a Pantone Reactor:

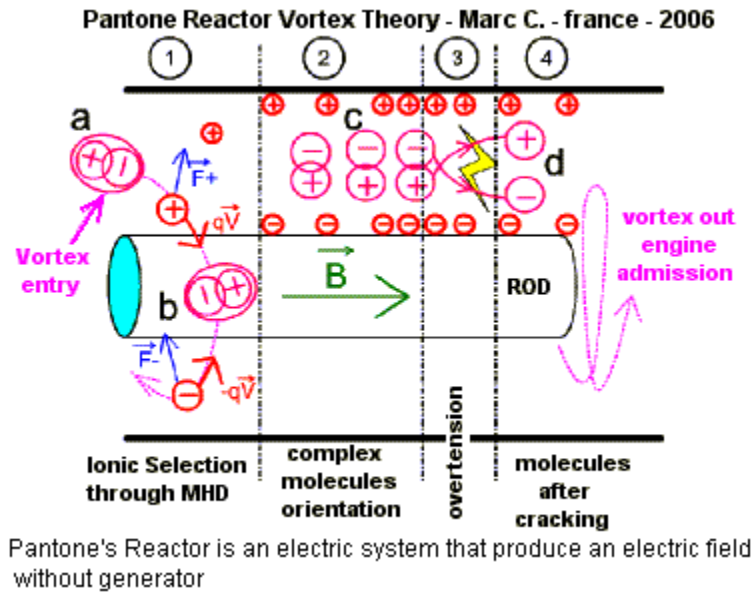


Each ion induces a magnetic field in proportion with its speed. The ions closed to each other in the vortex tend to come closer when their speed increases.

Electrodynamic effect on the Vortex, in Pantone Reactor



In fact the Electrodynamics Force (F_e) becomes stronger than the Coulomb force (F_c) that was repelling them. Optimal Molecular Breakdown If the reactor can transform the mix of air and water (+ eventual fuel) in a plasma, like Paul Pantone said, then we obtain, theoretically: $H_2O=H+H+O$, $CO_2=C+O+O$, $NO_2=N+O+O$, etc ... In other terms, we obtain production of Mono Atomic Hydrogen and Oxygen, from water or from the oxides present in the air ; so the vortex acts like an air purification.

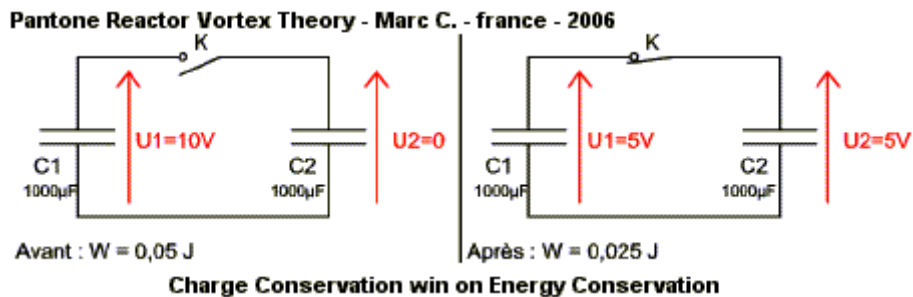


The Pantone Reactor is **an electric apparatus that produces an electric field without generator!**

The Vortex associates Magnetic and Electric Fields, without limiting the last one. **No electron flow, No energy dissipation.** Efficiency is closed to 1.

The **principle of the Charge Conservation wins on the Energy Conservation one.**

Paradox of the Charge Conservation:



By which way this 'half-energy', that became 'un-desirable', has been thrown out of the circuit ? To learn more about this, just put a radio receiver or TV close to the circuit, to see or hear the parasits: joining the 2 condensates liberated some electromagnetic energy as a pulse; from where appear an 'infinity' of radio waves radiated all around .

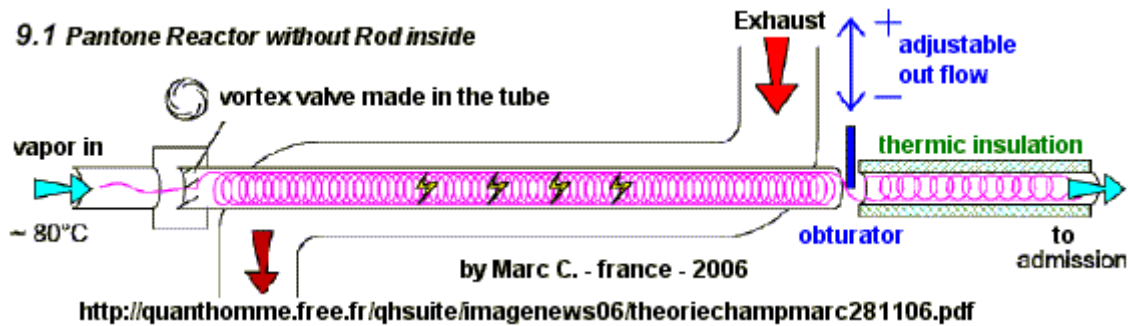
Is it possible to conciliate 'Charge Conservation" and 'Energy Conservation" in a closed system, without ever use external energy ?

About the Law of Charge Conservation : from : <http://jnaudin.free.fr/html/tepcoil.htm>
The Law of charge conservation 1,2,3 has been introduced by Benjamen Franklin (1706-1790) :
The Law of charge conservation can be written "Electricity is never created or destroyed, but only transferred" or like this "In any closed system the sum of all electric charge remains constant ".

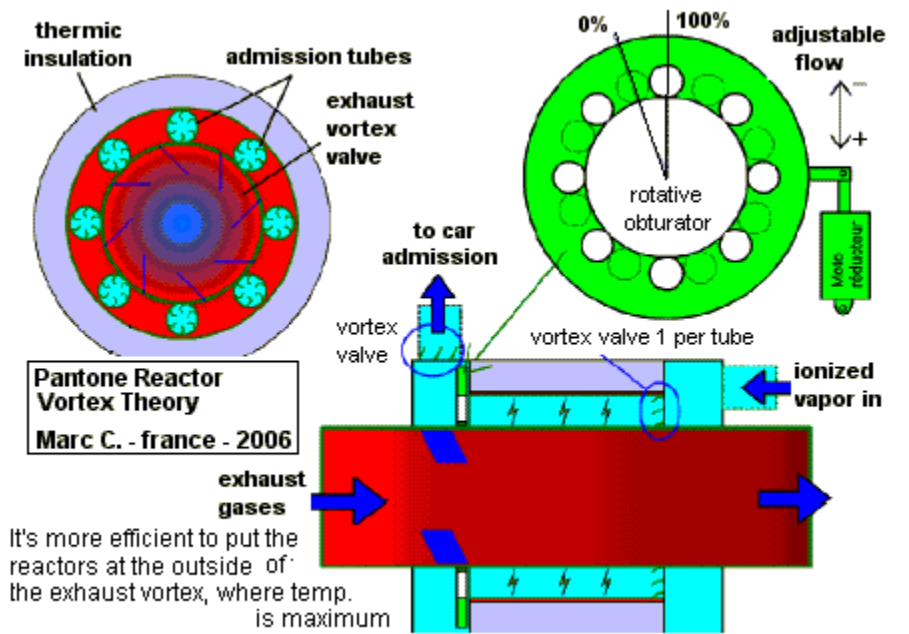
Because of the particular links that it creates between the molecules constituting it, an **Ionic Vortex** is comparable to a spring that contracts when heat is added, and expands in the opposite case.

8.3 Water boiling: By which way the boiling water limits its temperature at the pot top surface at around 100 Deg.C.? It is said that the water gives away its internal energy in the form of cold; but **where did the water store this energy?** Myself, after reading an article on the web about 'micro vortices' observed in water vapor (article that I can't find again), I think that the **liquid to vapor transit** comes with a re-organization of the molecules, what **creates micron sized ionic vortices'**, converting the heat in a organized molecule movement.

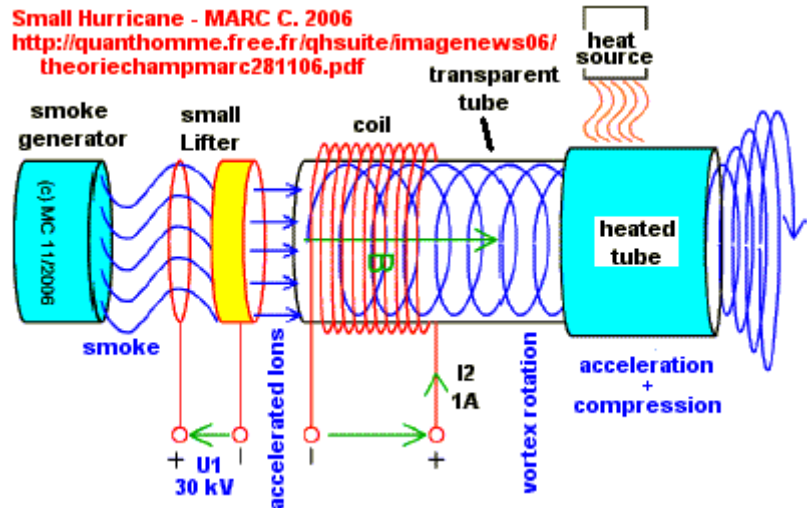
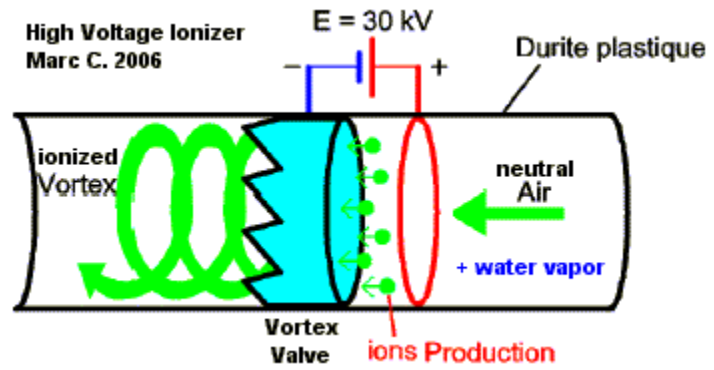
Pantone Reactor without Rod:



By **taking out the rod**, the magnetic induction become less intensive than before, but the **global efficiency is increased** because the **ions are no more in friction** with the rod. This ions at the center of the vortex, rotating almost along the tube axle, have a speed quasi null, then the **magnetic interactions with the external crown of the vortex are increased** ...

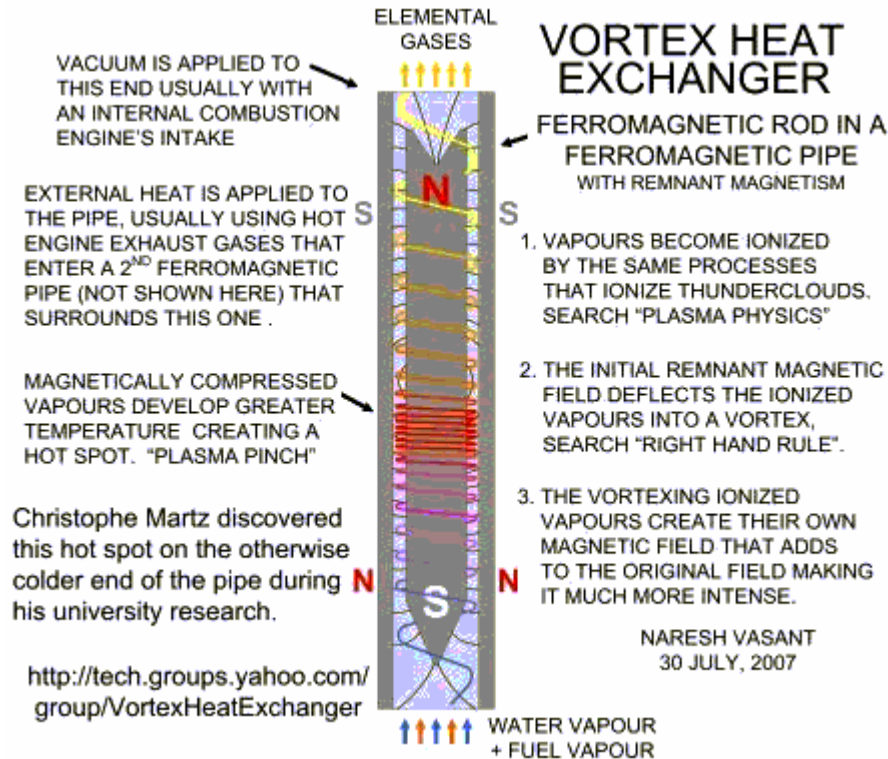


<http://quanthomme.free.fr/qhsuite/imagenews06/theoriechampmarc281106.pdf>



-End

The following is courtesy of open source Engineer Naresh.



Naresh's group is working in this version of the technology, links to his technology group are provided at the end of this document.

This group is for R & D, theory and practical use information about how to build a fuel reformer that uses a vortex heat exchanger for reforming fuels for your car, farm equipment or genset as well as for fuel cells. This fuel reformer is for hydrogen production and will help people to get much better fuel economy. Research on this type of reformer was started by Jean Chambrin and others around the world. Jean Chambrin's system is patented under patent numbers WO8204096 and WO8203249. Later a similar system was patented by Paul Pantone in the USA which he called the GEET (TM) reactor fuel pretreater. Paul Pantone's U.S. patent number 5.794.601 does not mention vortex action nor unusual electromagnetic phenomena however these were reported by Paul Pantone and other independent researchers investigating his fuel pretreater's performance. The fuel pretreater uses a heat exchanger with a ferromagnetic pipe inside a ferromagnetic pipe with a central ferromagnetic rod in the inner pipe

Adding air causes a partial oxidation reaction which is an exothermic reaction that can provide some of the heat needed for the steam reforming reaction which is an endothermic reaction that releases hydrogen from both the water and the hydrocarbon fuel.

A GEET type of fuel reformer works better with exhaust gases instead of air. The exhaust gases through the reactor with fuel and water vapors and heating the chamber on the outside with exhaust both provide all the heat needed for the endothermic reaction. Sending air through a GEET reactor causes a higher tendency to eventually clog up the reactor with carbon deposits. Engine coolant is no where near as hot as the exhaust gases.

Donato Tommasi's research

The not well understood parameters that made Tommasi's device not work are also what make people's GEET not work well also. But I think if the vapors are well electrified then it works better. And there is something special about the type of electrification that gets intensified by a rapid change in temperature. When water vapors change state rapidly it seems to manifest more electrostatic effects.

Using search word magnetized:

<http://books.google.com/books?q=steam+electricity+copper+tube+atmospheres+iron+magnetized>

NYPL RESEARCH LIBRARIES, SUPPLEMENT TO "THE ELECTRICAL ENGINEER," JUNE 29, 1888.
THE ELECTRICAL PAGE 266

"The Steam Electro Magnet. — Many of our readers, like us, may have been under the impression that — whatever be the explanation of the fact — a core of iron becomes magnetized, in some degree, when a current of steam is caused to traverse with sufficient velocity a tube of copper, wound helically upon the core. The experimental result in question was first obtained, we understood, by M. Tommasi, and his results were subsequently confirmed by M. Thouvenot. A correspondent of l' Electrician now states that he has repeated the experiment with an entirely negative result, even with higher steam pressures than had been mentioned as necessary. Messrs. Tommasi and Thouvenot have, under these circumstances, been requested to render assistance or explanation; and the Editor of the above-named paper is about to repeat the experiment for the satisfaction of those who are interested in the question."

PAGE 387- "Steam Electro-Magnet. — In a note under this heading (p. 266)

We mentioned that the discovery of M. Tommasi, said to have been confirmed by M. Thouvenot, had been called into question by a correspondent of l' Electrician. In the current number of that journal, a somewhat unsatisfactory communication from M.

Tommasi appears, in which he states that "When a current of steam under a certain pressure is passed through an ' unsoldered copper tube wound about an iron bar the latter becomes magnetized.' " This, M Tommasi affirms, "is an indubitable fact which has been verified by several distinguished persons," amongst whom he mentions MM. Desains, Moigno, and Parville. It is admitted, however, that the experiment does not always succeed, even when it is repeated under conditions apparently identical with those prevailing when a positive result has been obtained. M. Tommasi can suggest no explanation of this curious circumstance, but observes that the necessary conditions are not sufficiently understood. We may presume that this gentleman, those above-mentioned, and M. Thouvenot will make some endeavor to make themselves acquainted with these conditions; for an experiment which cannot be repeated is not scientific evidence, and affords no basis for an alleged discovery. -End

The key to getting the GEET to work correctly is to get the vapors electro statically charged up. Using methods like discussed in these old science publications:

The Edinburgh New Philosophical Journal, page 54

The experiment of Professor Faraday, on the electricity of steam, from which he was led to conclude, that no electrical development could take place from the evaporation of a saline mixture, and that evaporation is not the cause of the electricity' of the atmosphere, tell against the theory ; but the conclusions of Pouillet on the electrical phenomena of evaporation are directly the reverse ;for, although he agrees generally with Dr Faraday on the phenomena of the electricity of steam, he " has demonstrated that the conversion of pure water into vapor, at any temperature, is not attended with any disturbance of the electric equilibrium, but that vapor, rising from solutions, however weak, gives signs of electricity, varying in kind, according to the nature of the substance dissolved. From saline or acid solutions, the vapor carries up a charge of positive electricity, and leaves the solution in a state of negative electricity ;and the rule was verified particularly with regard to solutions of sea-salt." The experiments of Armstrong and Pattison, on the electricity of steam, were with boilers without any arrangement for causing friction, and without regard being had to the purity of the water.

The experiment of Mr Pattison shows the vast quantity of electricity carried off by vapor, as he says, — " I repeated Volta's experiment, by placing a hot cinder upon the cap of a gold-leaf electrometer, and projecting a few drops of water upon it, when the leaves diverged strongly with negative electricity. I observed that when the cinder was very hot, and the production of the steam consequently very rapid, the electricity given out was always most powerful. "I then insulated an iron pan, 12 inches diameter and 2 inches deep, and attached to it a pith-ball electrometer, 2 inches deep, and attached to it a pith-ball electrometer, with balls ;in this of an inch diameter, and threads 5 inches long, and also attached to the pan a metallic wire, the pointed extremity of which was

placed about $\frac{1}{16}$ th of an inch distant from the point of another wire connected with the ground.

The iron pan was then filled with cinders, very hot, from a wind-furnace, and on projecting upon them a few ounces of water, steam was evolved with great rapidity, and at the same moment the pith-balls diverged to the distance of an inch, and sparks passed between the metallic wires. This was several times repeated." — (London and Edinburgh Philosophical Magazine, 1840, p. 460.) And the experiment on evaporation from insulated and UN insulated vessels (an account of which I submitted to the Ashmolean Society in 1841)* tends to show that electricity is a necessary agent in evaporation at moderate or low temperatures.

It is of little consequence, as regards the phenomenon in question, whether the vapor carries off the electricity, or whether (as I have endeavored, in former papers, to show) the electricity carries off the vapor ; it is sufficient to know that, during evaporation, positive electricity is carried off, and the water left in a negative state ; Electricity By Robert M. Ferguson

Chapter: FRICTIONAL OR STATICAL ELECTRICITY. page 73

When water is evaporated, it is usually found that the vessel from which it is evaporated is electrified, and that the vapor has the opposite electrification. The electrification apparently depends upon the nature of the other substances present in the water. If it contains free oxides of such metals as potassium, sodium, calcium, the water becomes positively electrified: if there is a soluble acid or a carbonate chloride, the water is negatively electrified.

When the water is perfectly pure, it does not become electrified on evaporation. 64. Sir William Armstrong invented an engine by which electricity can be generated by the friction of steam. It consists of a boiler on insulating supports, which supplies steam to tubes which pass through a condenser, D (fig. 37), filled with cold water. This condenses the steam partially, and it then escapes through nozzles, A, so formed as to cause much friction between the escaping steam and the sides of the nozzles. A comb, P, provided with a series of points is placed in the jets of steam, and collects the electricity and conveys it to the prime conductor, B. In ordinary circumstances the prime conductor was charged positively and the boiler negatively, and large sparks were obtained. Faraday investigated the action of the Hydroelectric Machine, and showed that the small drops of water produced by the partial condensation' were essential to the production of electricity: that electricity was due to the friction between these drops and the sides of the nozzles, for «" changing the material with which they were lined, the amount or the kind of electricity produced was changed:

when the water was made a conductor, by dissolving in it any salts, acids, &c., no electricity was produced : when turpentine or any fatty substance was added to the

water, the boiler was charged positively, the prime conductor negatively: the production of electricity increased with the pressure of the steam. A current of moist air driven through the nozzles charged them negatively, but carried positive to the points: there was no electricity produced when perfectly dry air was used.

Elements of Chemistry: Theoretical and Practical By William Allen Miller

ELECTRIC EFFECTS OF CHEMICAL ACTION, OF VAPORIZATION. P 359

Electricity of Vapor.—The act of evaporation has also been asserted to be one of the sources of electricity, but the truth of this statement is doubtful. It is true that if a few drops of water fall upon a live coal, insulated on the cap of the gold-leaf electroscope, the leaves of the instrument diverge. This, however, is due to the chemical action between the coke and the water, and not to mere evaporation; for by allowing pure water to evaporate in a clean hot platinum dish connected with the electroscope, no signs of electric disturbance occur. Pouillet found that on allowing alkaline solutions to evaporate in the capsule, the electroscope became charged positively; with acid solutions, the charge given to the electroscope was negative: but Peltier states that these electrical effects may nevertheless be due

to friction, as they do not manifest themselves until the liquid is nearly all driven off, and a crepitating of the salt as it detaches itself from the sides of the capsule begins to occur. This is corroborated by Faraday's observation, that if the dish be heated to redness and pure water be dropped in, so long as it evaporates quietly in the spheroid form (198) no electricity is developed; but the moment that it cools down sufficiently to boil violently with friction against the metallic capsule, the leaves diverge powerfully. Electricity is also developed during the process of combustion; carbon, for example, becoming negatively electric, whilst the carbonic acid is positive.

In like manner hydrogen in the act of burning was found by Pouillet to be negative, whilst the vapor produced by it was positive. In accordance with this observation, Faraday has explained the development of electricity by high-pressure steam, which occurs to so remarkable an extent under certain circumstances. This he has traced to the friction of water accompanying the steam against the orifice of the jet through which it escapes into the air. An insulated boiler from which steam is allowed to blow off at high-pressure through long tubes, in which a partial condensation of the steam occurs, furnishes, as in the hydro electric machine of Armstrong, exhibited at the Polytechnic Institution, an admirable source of high electric power. In this experiment, the boiler becomes negative, the escaping steam being positive. It is remarkable that the presence of the smallest quantity of oil or of essence of turpentine in the exit-pipe reverses these electrical states. A solution of acetate of lead produces a similar effect. Indeed the purer the water that is used in the boiler, the better is it for these

experiments, and the more uniform re the results. The electric condition of the steam was found by Armstrong to be also influenced by the material of which the exit-pipe was formed ; glass, lead, copper, and tin. -End

In simple definition, the GEET Fuel Processor could be called a new type of carburetor with a miniature refinery built in. With it, There is no need for catalytic converters, smog pumps and many other costly items on cars , as the GEET fuel processor is not just a fuel delivery system it is also a pollution elimination unit! Your car mileage will be greatly increased if you are truly consuming ALL of the available energy from whatever fuel you may be using.

A model suitable for a small two- or four-stroke (lawn-mower or small generator) typically consists of two horizontally-lying, concentric steel or metallic pipes of about 50 cm in length, one inside the other. The outer pipe has an inside diameter of 25.4 mm, the inner pipe an outside diameter of 12.7 mm and an inner diameter of 12.4 mm. Within the latter is a long solid steel or iron bar, whose diameter is 12 mm, that doesn't touch it, except at three solder points at each of its extremities. Let us call A and B the two ends of the 50 cm long pipes and bar.

The exhaust from the engine travels

- * From A along the "outer" concentric space, between the two pipes, to B.
- * From there, it is sent bubbling at high pressure to the bottom a jug of water with some fuel that is vaporized by the heat.
- * It is then sent along the inner pipe, in the thin space round the central solid steel bar, back from B to A, to near the air intake, where it is mixed with some fresh air.
- * The latter mixture is input to the motor

A preliminary analysis of the GEET: Two-strokes are known to be inefficient as only a certain proportion of their fuel is burnt. Their exhaust typically consists of the following:

- 1 - Air somewhat depleted in oxygen
- 2 - Carbon dioxide
- 3 - Carbon and nitrogen monoxide
- 4 - Water vapor
- 5 - Un burnt volatile gasoline
- 6 - Particles of heavier hydrocarbons, oil and soot

In the case of four-strokes, there are less of 5 and 6.

* As the exhaust first travels between the "outer" space, between inner and the outer pipes, it heats their surface to its own temperature. In order that this temperature is as high as possible, the outer pipe should be thermally insulated with a glass wool jacket. Another contribution to higher temperatures at the inner surface of the outer pipe

involves the Ranque-Hilsch effect: the exhaust flow should spiral, so that the hotter components in the gas gather against the outer surface where the steam is more thoroughly reduced into hydrogen while the pipe surface is oxidized. In turn, the released hydrogen reacts with the carbon dioxide into carbon monoxide and water ($\text{CO}_2 + \text{H}_2 \gg \text{CO} + \text{H}_2\text{O}$) at high temperatures, while the steam can again be reduced by the hot iron into hydrogen. Provided that the outer surface of the cooler inner tube contains catalyzers such as nickel, already at 200°C , carbon dioxide and hydrogen combine into methane and water ($\text{CO}_2 + 4\text{H}_2 \gg \text{CH}_4 + 2\text{H}_2\text{O}$), the latter of which can again be reduced at the hotter surface of the outer pipe. Therefore, both the water and the carbon dioxide are reduced, the exhaust becomes depleted in carbon dioxide and enriched in fuels such as carbon monoxide, hydrogen and methane.

* This pretreated exhaust bubbles through the jug of water and fuel, the latter remaining at the top when not miscible (gasoline, heavy fuel or miscible glycol alcohol, etc). The depth of the water increases the pressure in the preceding reducing stage. Now, along with some soot, heavy hydrocarbons and unburnt fuel that are recycled, the carbon dioxide dissolves in the water and is removed from the exhaust so long as the water isn't saturated. To increase the amount of carbon dioxide dissolved, the pressure should be maximal and the water circulated. In critical closed-cycle applications, the resulting carbonic acid could react with a metal such as zinc or magnesium to release hydrogen. The resulting carbonate and hydroxide, as well as the reducing metal of the inner surface of the outer pipe could then be recycled later by using solar energy. Another option is using some mix of photosynthetic algae in an adjacent first stage to convert the carbon dioxide into oxygen and biomass, and fermenting anaerobic bacteria in a second stage to generate methane and hydrogen from the latter.

* The fuel as well as some water is vaporized in the bubbler.

* The cooled and enriched exhaust now travels at high speed inside the inner pipe, as the available space is thin, round the solid steel bar. Here, it must be observed that there are heat gradients, as the outer surface of the inner pipe is heated by the exhaust, while the steel bar inside that doesn't touch it is cooled by the cooler flow of the bubbled exhaust. The Ranque-Hilsch effect can again be used to further reduce the temperature round the inner bar. This involves replacing the three extremely solder points by small soldered coiled lines of wire at the B end of the iron bar.

* Some of the previously generated hydrogen may, here again, catalytically combine with the remaining carbon dioxide into methane and water against the outer surface of the nickel inner tube.

* Because steel is magnetic and its Curie temperature is even higher than that of the outer, hotter pipe, all the surfaces inside the GEET are microscopically strongly magnetized, locally, on the level of magnetic domains of about 80nm, even if this

magnetism isn't apparent macroscopically. However, only the inner steel bar is in contact with a sufficiently cool flow so it is below the Curie temperature of the Magnegas.

As a result, when the molecules bounce against the surface of the pipes, they experience a strong magnetic field of several Tesla. As R.M. Santilli has shown, diatomic molecules such as H₂, O₂ and CO can be magnetically polarized, and may assemble into clusters that this researcher calls magnecules. These have a Curie temperature which is at about 150° C for H₂ and CO. The rate of formation of such magnecules will thus be higher on the cooler surface of the steel bar. The corresponding magnetically polarized gas is called a Magnegas^(TM). Because most chemical reactions involve polarized molecules while ordinary gases are unpolarized, magnegases release far more energy than expected from the combustion of their unpolarized counterparts. Also note that, due to the recycling, the O₂ molecules may pass several times into the magnetically polarizing cavity.

MASER emission might also occur in this cavity, which might accelerate the formation of magnecules.

The recycled and enriched exhaust thus in the end contains:

- * CO, NO, O₂ and H₂ molecules, the latter resulting from the reduction of steam on the outer hot steel surface or from biomass recycling.
 - * Magnecules of the latter.
- * Some methane from catalytic conversion of carbon dioxide and hydrogen or from biomass.
 - * Recycled unburnt fuel.
 - * Vaporized fuel from the bubbler.
- * Less CO₂ than in the original exhaust, at least until the water becomes saturated in the simplest devices. This suggests the importance of increasing the pressure in the bubbler.

The mechanisms involved suggest an improvement in efficiency from:

- * Thermally insulating the outer pipe.
- * Placing reducing elements at the inner surface of the outer pipe, with high surface area if in the solid state, or as a liquid circulating blanket maintained by centrifugal forces in a rotating configuration.
- * Using spiraling vents at the entry of the exhaust into the cylindrical outer space, and coiled elements at the entry of the bubbled exhaust round the inner bar so that the flow spirals and, by the Ranque-Hilsch effect, concentrates its hot components on the outside and its cooler ones on the inside.
- * Using a steel or alloy with high magnetic permeability and saturation, or very pure Iron for the inner bar.
 - * Polarizing the fuel in the bubbler into a Magneliquid, and the fresh air into a

Magnegas.

- * Increasing the pressure at the bubbler so that a maximal amount of carbon dioxide is dissolved.
- * Using a metallic powder of Zinc or Magnesium so that the resulting carbonic acid releases hydrogen and carbonate in critical closed-cycle applications, or a multistage biomass of photosynthetic algae and anaerobic bacteria to convert the carbon dioxide into oxygen and biomass and the latter into methane in less critical or fixed applications.

The central iron bar should be at less than 150° C (the Curie temperature of Magnegas), the surrounding catalytic pipe at about 200° C (that converts carbon dioxide and hydrogen into water and methane), and the outer pipe at yet higher temperatures.

According to the inventor, Mr Pantone, the central steel or iron bar acquires an overall magnetization and must always be oriented in the same way with respect to the magnetic north in devices where it is horizontal, and similarly with respect to the vertical, when vertical.

The energy balance:

On the minus side:

- * The vaporized fuel spent (whatever the actual proportion of fuel in the bubbler, which can be as low as 20%)
- * The steel or reducing agent oxidized, mainly at the inner surface of the outer pipe
 - * The metallic powder turned into carbonate.

On the plus side:

- * The un-burnt fuel and hydrocarbons recycled, especially for two-strokes
 - * The un-burnt CO and NO recycled
- * The increased energy released by the use of magnecules
 - * The possibility of using a wide variety of cheap fuels
- * Dissolved CO₂ converted to oxygen and biomass and then the latter into methane

and hydrogen in several stages or into carbonates and hydrogen by a metal in the bubbler itself or some adjacent reactor.

Any test of exhaust emissions should take into account the CO₂ retained in the water. Also note that, when this CO₂ is eventually released in the atmosphere or recycled, one is left with a brew consisting of residual, un-volatilized fuel, soot and various heavy hydrocarbons, which would be ideally suited for recycling in a "Hadronic Reactor" into Magnegas. Thus, provided that the overall cycle proves to have a favorable efficiency, there might be a synergy between the GEET and Hadronic reactors, as they both involve Magnegas and the waste from the one may be taken as starting materials for the other.

For most two-strokes, there should be quite a significant improvement in efficiency from the recycling of the UN burnt fuel alone. For other motors in which there is less of the latter, the gain could be lower but still not negligible. Note also that the Magnegas produced in "Hadronic Reactors" is unsuitable for two-strokes, as these require a liquid fuel into which the lubricating oil is mixed.

Thus, this system has several positive points. On the other hand, claiming that it runs on 80% of water and 20% of fuel when this is just the proportion that is present in the bubbler where the fuel is preferentially vaporized by the hot exhaust, ignoring the oxidation of the metal in the pipes and their effective lifetime, ignoring the CO₂ retained in the water, especially during the first ten minutes after start-up, as well as the liquid wastes that are produced when measuring the exhaust emissions and not mentioning for how long a specific test was performed can be very misleading, to the point of bordering on fraud.

Suggested improvements involve the use of spiraling aerodynamic flows so as to optimize the temperature gradients at several key locations by the Ranque-Hilsch effect (to minimize the temperature round the central iron bar, and maximize it at the inner surface of the inner and outer pipes), thermally insulating the outer pipe, increasing the pressure so as to maximize the solution of carbon dioxide in the bubbler, and circulating the resulting carbonic acid in adjacent reactors, using a multistage configuration of photosynthetic and anaerobic recycling biomass to convert it to oxygen and methane or using a reactive metal to release hydrogen in certain critical closed-cycle applications. Solar energy can be used at a later stage to release the oxygen taken up by the reducing metal and recycle it.

Research links

To Help Free Paul Pantone please visit - <http://www.geetfriends.net/>

<http://geet-pantone.com/>

<http://freeenergynews.com/Directory/Geet/>

<http://www.rexresearch.com/pantone/pantone.htm>

<http://geetpantone.blogspot.com/>

http://waterfuel.t35.com/geet_plasma.html

Technical support groups

<http://tech.groups.yahoo.com/group/VortexHeatExchanger/>

Videos

[GEET LAWNMOWER WATER POWER HYBRID PART 1](#)

[GEET LAWNMOWER WATER POWER and E86 HYBRID PART 2](#)

[Paul Pantone interviewed about GEET](#)

[Paul Pantone Introduction](#)

[MIT Plasmatron - Principles of the Pantone GEET Device](#)

[Paul Pantone Plasma Reactor Motor](#)

[Panacea-BOCAF GEET Replication](#)

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<http://www.panacea-bocaf.org>

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