GLOBAL ENVIRONMENTAL ENERGY TECHNOLOGY

SMALL ENGINE
Conversion Plans

WARNING!!
This information is classified as
EXPERIMENTAL!!

Paul & Molley Pantone

have donated their portion of the proceeds from the sales of these GEET Plans to Exotic Research, in support of the ongoing effort to nurture research that is rarely supported by orthodox science.

Paul & Molley Pantone, founders of Global Environmental Energy Technology and GEET Management, LLC, are well experienced in battling the what Nikola Tesla termed the "Organized Opposition" -- a loose coalition of intellectuals, corporations, and government that strives to maintain the status quo of whatever field they are interested in. These suppressive forces can only be overcome when the General Public is informed of the existence of new ideas and inventions.

Exotic Research increases awareness of unconventional energy resources and health alternatives, as well as Tesla and his inventions among the general public through news releases, educational programs, publications and various other means. Additionally, Exotic Research organizes and presents Exotic Research Conferences which provide a forum for voicing new and untested ideas as well as educating and enlightening the scientific community, students and the general public. It is only through organizations like Exotic Research that the independent researcher has a chance to be heard.... Paul and Molley are not only helping to keep this channel alive and well... but to expand and make it even more effective.

SMALL ENGINE PLANS

OFFICIALGEET SMALL ENGINE PLANS

June 2001 Edition. Artwork enhanced by Exotic Research.

GLOBAL ENVIRONMENTAL ENERGY TECHNOLOGY

The following plans are designed to help you retrofit your internal combustion engines with the GEET Fuel Processor Technology. The diagram drawings represent working designs of basic individual parts and components needed for manually operated retrofit applications of both small and automotive type engines. Once you understand how the technology and application works on your engine manually, you should be able to better understand what will be needed to change it over to an automated system.

Changes or variations of design may be necessary to fit your specific needs (example: flange modifications, parts placement, space limitations etc.). As long as the principles of the GEET technology are adhered to and all system components are incorporated as specified, your retrofit application should function properly.

WARNING!!

This information is classified as EXPERIMENTAL!! We cannot guarantee results. Please take time to educate yourself sufficiently before proceeding. The following is for information purposes only. We do not control the materials used in construction, the methods of , nor the applications of construction or use of the finished product. Therefore, WE ARE NOT RESPONSIBLE FOR DANGEROUS OR UNDESIRABLE RESULTS, and we do not take responsibility for accidents due to negligence or ignorance!!

WARNING!!

Gasoline is EXTREMELY FLAMMABLE! Caution should always be used when working around it. Do not smoke around it and keep it away from open flames. Whenever possible use goggles, gloves and/or other protective gear.

Table of Contents

GEET Technical Information

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fuel you desire to run, or using a separate tank for start up purposes. A valve can be placed in the fuel line to switch from start up fuel to what ever fuel you desire to run on. Our advice is to try and KEEP IT SIMPLE!

3) Air Management Valve (AMY)

The new "GEET Fuel" coming from the reaction chamber must be properly mixed with additional incoming fresh air as it is metered into the engine This is the job of the air management valve. This can be as simple as using two ball valves or as complicated as machining other the unit shown in these plans or one of your own design.

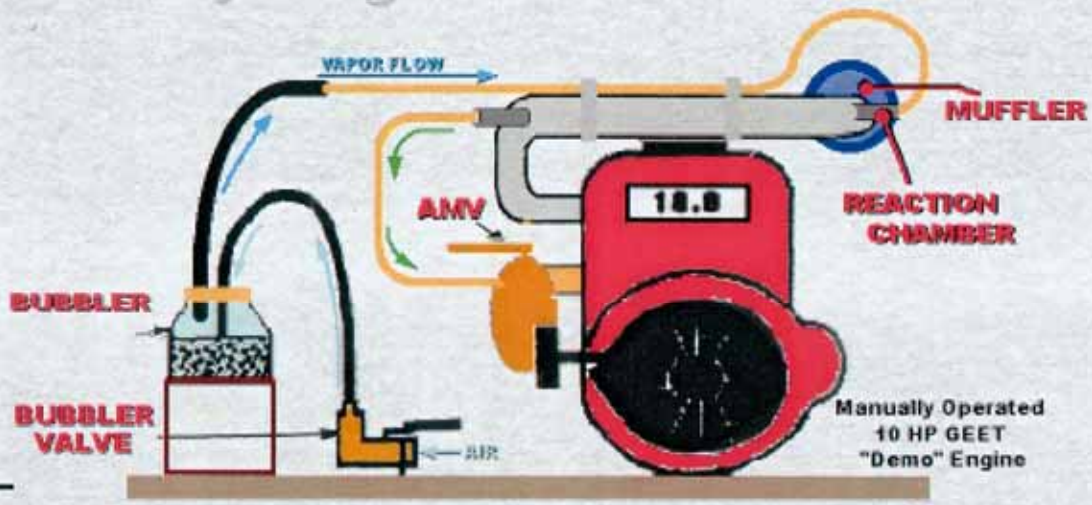
Within these plans, we have diagramed a manual operated air management valve. Because of the wide variety of engines, parts, etc. we are not able, at this time, to provide a diagram of an air management valve which is controlled by the engine, and not manually.

Understand that you have the freedom to mix and match styles and designs to best suit your application needs, space requirements, and your individual abilities.

For security and protection reasons, we are not including the specific clearances for each application. You will need to call GEET Management at (801) 588-2425 to get these specifications When built properly, the GFP should work as promised and in most instances may exceed your expectations.

This engine runs on just about anything...

The factory-built GEET "Demo' engines are capable of running on waste materials mixed with gas. Some examples are: lamp oil, used and new engine oil, pig manure, transmission fluid, soda pop, pickle juice, and the list goes on. These units are for testing and demonstrating the technology. They have no float, and must be manually operated. The fuel chamber is a glass jar, so during the demonstration viewers can see the "fuels" being vaporized in the tank. These units were built specifically for demonstrating that GEET works and to develop theories of operation. *They have no hookups for loads.*



The first time I ever ran one was in a 1998 public demonstration... I had borrowed the engine from a dealer and received 5 minutes of instruction. I had no problems... and had a gut warming feeling of vindication when I poured the first can of Barq's rootbeer in and the engine smoothed out!

Steven R. Elswick, BSEE - Publisher, *Exotic Research Report*

Major Elements Involved In Small Engine Conversion

Liquid-to-Vapor Phase Changer

Two methods of phase changing liquid fuel into a vapor are *bubblers* and *modified carburetors*.

Bubbler Construction and Operation

One of the two methods of phase changing the liquid fuel into a vapor is a bubbler. A diagram of a simple bubbler design is included in the plans.

A manual valve is used to adjust the amount of air that is fed into the bubbler. For proper operation, the valve should be more closed than open to allow a vacuum to be maintained within the bubbler. As that air bubbles up through the liquid fuel, it creates vapors in the top portion of the bubbler which are pulled into the reaction chamber by the vacuum of the engine.

A diffuser/bubbler plate and/or metal "scrub pads" placed in the bubbler will help break up the larger bubbles into smaller ones to produce better vapors, enriching the fuel mixture to the reaction chamber. Other types of bubblers can be used also. **The liquid level within the bubbler should never be high enough to allow liquids to be sucked into the reaction chamber.**

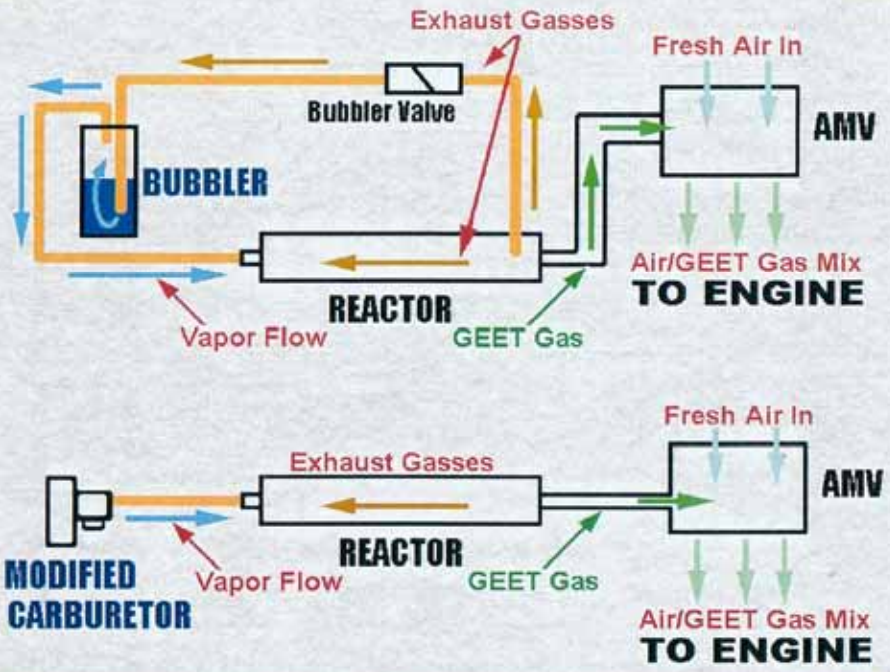
Only the vapors are allowed in the reaction chamber for the process to work properly. The heavier fuels such as diesel, kerosene, crude oil, etc. will require the bubbler to be heated to enhance their full vaporization. This can be accomplished by either surrounding the bubbler with the hot exhaust gases from the engine, and/or by directing some of the exhaust into the bubbler instead of fresh air.

The bubbler can be constructed of metal or some plastics such as PVC. When using plastics, make sure the glue used will not be dissolved by the fuels you will be putting into the bubbler. We have found that *JB Weld* epoxy is good to use. If you choose to use exhaust gases to surround and heat the bubbler, then plastics should be avoided due to the hot temperature of the exhaust. If you choose to use exhaust gases to bubble the fuel with, there are several factors to consider...

1) When tapping into the exhaust system, come out in a "Y " fashion. **If you "T" into the exhaust, there could be a siphoning effect that might suck the fuel into the exhaust.** By coming out of the exhaust at an angle ("Y") under a slight pressure, the siphoning problem is eliminated.
2) The line carrying the exhaust to the bubbler must, at some point, rise above the top of the bubbler to eliminate drainage back into the line upon shutdown.
3) You must use the "manual valve" between the exhaust source and the bubbler inlet to control the amount of exhaust entering the bubbler to maintain a vacuum. Having the valve too far open could cause the vacuum to be lost and a "pressure" to be formed in the bubbler. We have noted in our testing that efficiencies can be cut to 1/3 by pressurizing the bubbler (as opposed to having it under a vacuum). The valve must also be closed when starting or stopping the unit to prevent fuel from being forced into the exhaust by back pressure from the engine.
4) Finally, all of the components exposed to the heat of the exhaust must be capable of handling this heat. Most ball valves use a Teflon seal inside that will melt with the heat of the exhaust. Furthermore, if using a PVC bubbler, the exhaust would melt the plastic at the point of inlet.

   We have used a metal screw-in lid in both the "top" and "bottom" applications of admitting a bubbling effect into the bubbler. The metal lid will dissipate the heat into the fuel before it comes in contact with the PVC. When using the "bottom" method, for bubbling, make sure the inlet line or tube at some point rises higher than the bubbler to prevent the liquid fuel from running back out upon shutdown of the engine. The "valve" should be placed at that "higher" spot also.

In summary, the bubbler can be square, round, heated, not heated, tall or short (make sure it is tall enough to keep the liquids from being sucked into the reaction line!). Whatever the specific needs of your application are will determine if you should use a bubbler and how that bubbler should be built.



Liquid-to-Vapor Phase Changer Overview
Bubbler vs Modified Carburetor

For constant running applications, a means of controlling the level of fuel (float chamber, external electric float unit or something that your design yourself) should be used. The large bubbles coming into the bubbler need to be broken down into smaller bubbles by the use of a bubbler/diffuser plate and/or pot scrubbers.

Be sure to use materials able to handle the fuels and temperatures that they will be exposed to. Either fresh ambient air or exhaust gasses can be bubbled up through the bubbler. The ambient air is easier to work with, but the exhaust gasses may offer better results.

Modified Carburetors

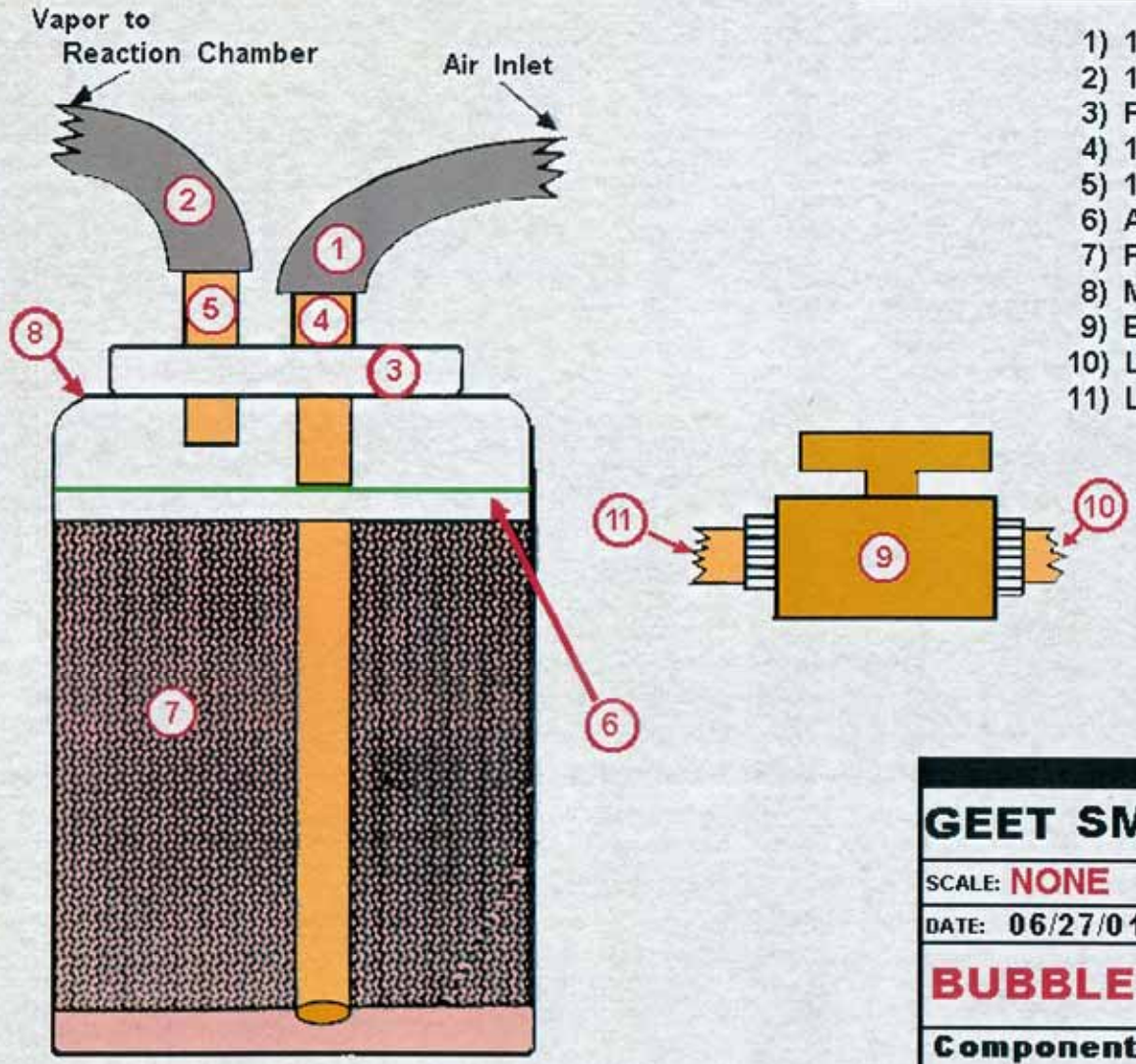
For certain applications a bubbler may be impractical. Space limitations or other restrictions on small engines may require you to use a "modified" carburetor instead. We have successfully modified and used 8 and 10 HP carburetors used of horizontal shaft Tecumseh engines. The drawing shows that we **restrict the venturi in the carburetor to pass more air over the pick up tube**.

The stock carburetor is designed to deliver a 12:1 *air/fuel ratio* (AFR). For the GEET we need a 2 or 3:1 AFR. This is achieved by restricting the venturi diameter and forcing all of the air past the fuel feed tube. This can be accomplished by either drilling a small hole on the choke side of the venturi and mounting a baffle to direct all of the air over the discharge feed tube (or by using *JB Weld* (epoxy) to "secure" a washer into the venturi, restricting the inlet (leaving the choke on full may also help channel the air). Combinations of all of these tricks can make the mixture richer to deliver the necessary fuel charge for a strong and powerful reaction.

The mixture adjustment screw can also be used to regulate the amount of fuel to be delivered to the reactor, helping control engine power requirements.. **NOTE: If you adjust the Air/Fuel mixture going to the reaction chamber too much on the "rich" side, economy will decrease and pollution levels will increase.**

MASON JAR BUBBLER
Used On "Demo" Engine

NOT TO SCALE



1) 1/2" Fuel Line To Valve #9
2) 1/2" Fuel Line To Reaction Chamber
3) Plastic Cork To Fit Mason Ring
4) 1/2" Copper Tubing
5) 1/2" Copper Tubing (Does Not Go Below #6)
6) Air Space Above #7 Material
7) Pot Scrub Pads Or Steel Wool
8) Mason Jar
9) Ballcock Valve To Control Air Inlet
10) Line To Air Filter
11) Line To Air Inlet Of Bubbler Pot

GEET SMALL ENGINE		
SCALE: NONE	APPROVED BY:	DRAWN BY: SRE
DATE: 06/27/01		REV:
BUBBLER, MASON JAR "DEMO"		
Component Drawing		DRAWING NUMBER: SE-001

MODIFIED CARBURETOR FOR SMALL ENGINES
(10 HP Tecumseh Shown)

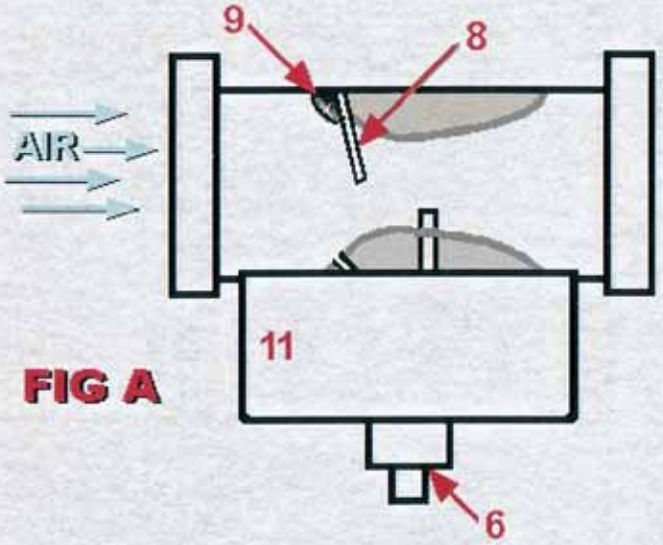
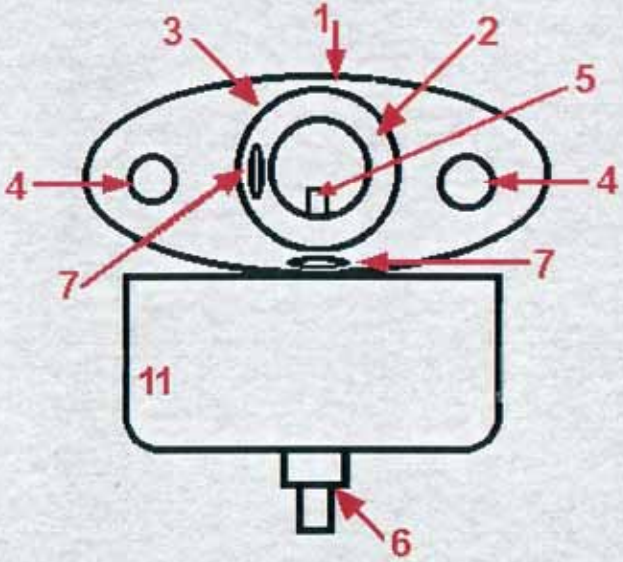


FIG A



1) Carburetor
2) Venturi
3) Air Inlet Of Carburetor
4) Mounting Holes
5) Fuel Metering Feed Tube
6) Mixture Adjustment Screw
7) Float Bowl Air Vents
8) Diverter Plate (FIG. A)
9) Diverter Mounting Screw
10) Washer To Restrict Air Flow (FIG. B)
11) Float Bowl

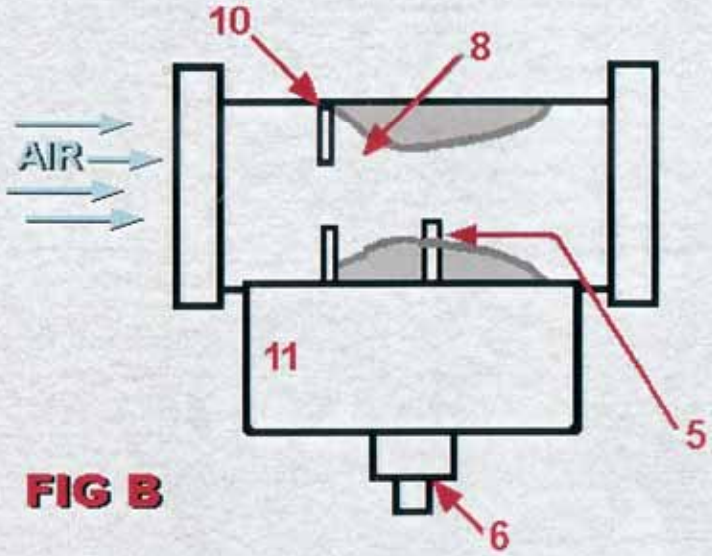


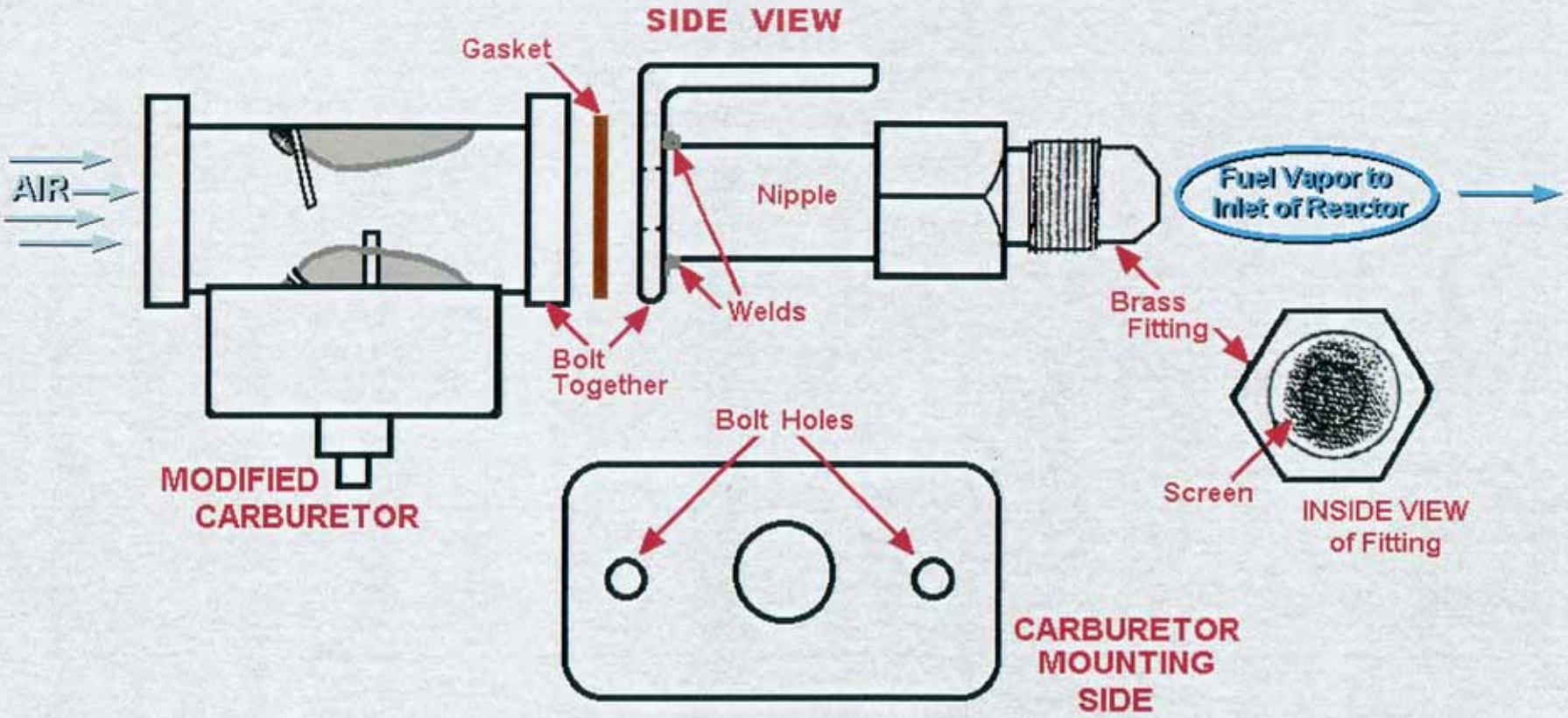
FIG B

Small Engine Tip:

After securing the diverter plate or washer in the air inlet side of the modified carburetor, either replace the choke and rod (leave in full choke position) or secure an appropriate size of tubing to channel the incoming air towards your reduced opening. This helps maintain the needed vacuum for the reaction chamber while speeding the air flow over the fuel feed tube.

GEET SMALL ENGINE		
SCALE: NONE	APPROVED BY:	DRAWN BY: SRE
DATE: 06/27/01		REV:
CARBURETOR, MODIFIED		
Component Drawing		DRAWING NUMBER: SE-002

MODIFIED CARBURETOR MOUNTING FLANGE



If you choose to use a modified carburetor instead of a bubbler you will need to decide where to place it and how to connect the necessary lines for fuel in and Air/Fuel mixture out. You will be using the float bowl system on it to control the fuel flow from the tank so the fuel tank MUST be higher than the carburetor.

A simple mounting bracket can be built from the appropriate size "angle iron". Flat steel may also be used, depending on how you decide to mount it. Use bolts and locking nuts to connect the carburetor (also use a gasket) to the bracket. On the other side ofthe bracket weld a 1/2" x 1-1/2 - 2" NPT steel nipple for fuel/air mixing and connecting to your 1/2" tubing which goes to the reaction chamber.

Before you screw the brass fitting on the end of the nipple, place a small piece of fine brass screen inside the fitting so it covers the opening (make sure it stays secure). This is a safety precaution we use in case the engine should backfire. Once you have secured the completed unit to your engine, connect the tubing from the carburetor to the reaction chamber.

Note: The more angles and restrictions you place between the fuel/vapor going to the reaction chamber and then to the air management valve, the more difficult it will be to get the fuel to the engine. The easier the flow, the better.

GEET SMALL ENGINE		
SCALE: NONE	APPROVED BY:	DRAWN BY: SRE
DATE: 06/27/01		REV:
MOUNTING FLANGE, MOD CARB		
Component Drawing		DRAWING NUMBER: SE-003

The Reaction Chamber

GLOBAL ENVIRONMENTAL ENERGY TECHNOLOGY

The *heart of the GEET Fuel Processor...* it is the the most important part, yet the easiest to build and tune!

The Basics of the GEET Reaction

The heart of the GEET Fuel Processor is its reaction chamber. In a sense, it is the single most important part of the entire system. Ironically, it is also usually the easiest part to build and tune! Most of the time if a system isn't operating properly it isn't the fault of the reactor (unless there are leaks). Improper fuel mixtures, vacuum leaks, too much liquid being fed into the reactor, or other things will cause problems before the reactor itself will.

Size and Material Considerations

The reaction chamber and rod (placed inside) need to be tuned to the size of the engine, the fuel being used, the RPM range of intended use, and whether you are using a single or dual reactor system.

Generally the exhaust pipe which surrounds the reactor chamber (pipe) should be sized large enough so as not to restrict the flow of exhaust from the engine. The diagram illustrates that the exhaust can be bent with the inner pipe entering and exiting straight, or the exhaust can go straight with the inner pipe entering and exiting through elbows.

Steel exhaust pipe is recommended for the outer part of the reactor. Stainless steel should be avoided in all parts of the reactor. ***All of the parts should be of a ferrous metal***; or in other words, should be easily attracted to a magnet. This means no copper, brass, aluminum, or stainless.

Low grade steel dowel is what we use for the rod. The length and diameter of both inner pipe and reaction rod will only be given over the phone for the application you are building. This is done for our protection.

Application Notes

Remember that your exhaust gasses will be exiting the engine and traveling in one direction, while the fuel will be traveling up the inner pipe in the other direction. Hot in one direction, cold in the opposite direction.

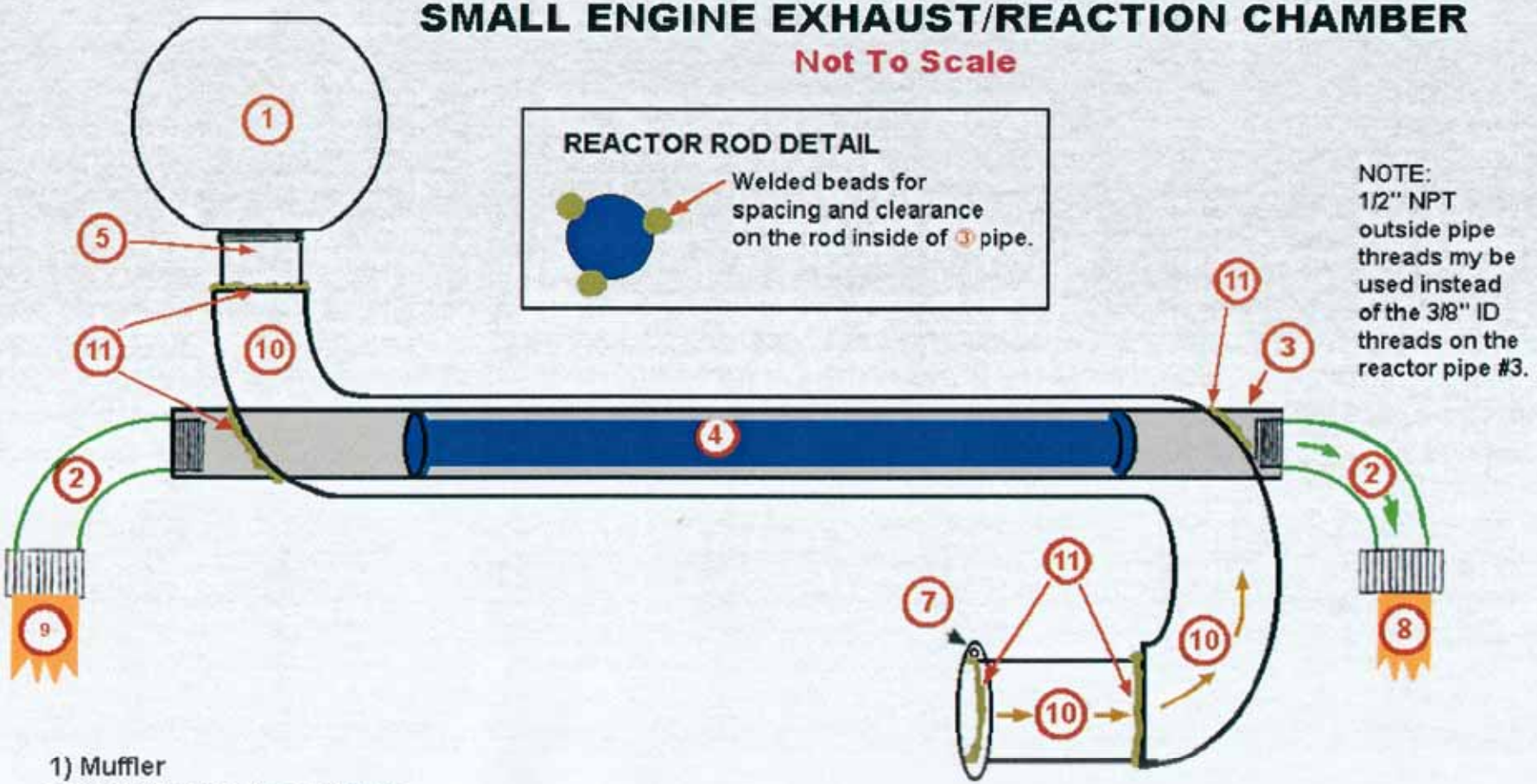
The GFP reaction chamber has shown to generate its own electromagnetic field (EMF). If applying your GFP to a generator, route the reactor away from the generator. The EMF from the generator may interfere with the performance of your GFP.

On V-configurated engines you can run a single reaction chamber, or run dual. If you have the room, the twin set-up may be the preferred method. If you don't have enough room, mount the reaction chamber downstream of the "Y" pipe. This enables utilization of all of the engine's waste exhaust heat.

The reaction rod has three equally spaced tabs welded onto it at both ends, within 1/2" of the end. Either "bullet" shape the end of the rod, or grind grooves between the tabs to create better aerodynamics for the incoming fuel.

SMALL ENGINE EXHAUST/REACTION CHAMBER

Not To Scale



1) Muffler
2) 3/8" Or 1/2" Brass Fittings
3) 1/2" Pipe Threaded 3/8" ID or 1/2" OD
4) Reaction Rod
5) 3/4" Or 1" Nipple Welded to Exhaust Pipe
6) 3/4" Or 1" Steel Tubing or Pipe Nipple
7) Mounting Flange to Engine Exhaust
8) 1/2" Copper or Stainless Steel Tubing to AMV
9) 1/2" Copper or Stainless Steel Tubing from Bubbler or Modified Carburetor
10) 1 1/2"Steel Exhaust Pipe
11) Weld Seams

GEET SMALL ENGINE		
SCALE: NONE	APPROVED BY:	DRAWN BY: SRE
DATE: 06/27/01		REV:
REACTION CHAMBER		
Component Drawing		DRAWING NUMBER: SE-004

Air Management Valves

GLOBAL ENVIRONMENTAL ENERGY TECHNOLOGY

The *"problem child" of the GEET Fuel Processor...* it's the toughest part to build and operate!

Air Management Valve Operation

Of all the aspects of building the GFP, the air management valve (AMY) is the part that may give you the most trouble when you try to adapt or build one to work "automatically" instead of manually. The function of the AMV is two fold; first to control the amount of air and fuel, and secondly to control the engine speed and power output.

It is recommended that you use manual controls at first to further understand the workings of the GFP. Once you are familiar with how the engine operates with the GFP system it will be easier for you to understand what changes will be necessary for automatic controls.

Air Management Valve Operation

Use a ball valve for the *air inlet* to the bubbler, and a ball valve for the *air bleed* (see illustration). As you open the fuel valve, open the air valve too. To lower engine speed, slowly close both valves simultaneously. For a stationary engine, constant land application, the ball valves can be the easiest way to go. Use one for the bubbler inlet (fuel control) and one for the ambient air inlet.

The *air valve* is like the throttle butterfly on any conventional fuel delivery system. We want to create a 2:1 or 3:1 air fuel mixture at our bubbler or modified carburetor. We will admit the remaining air at the air valve.

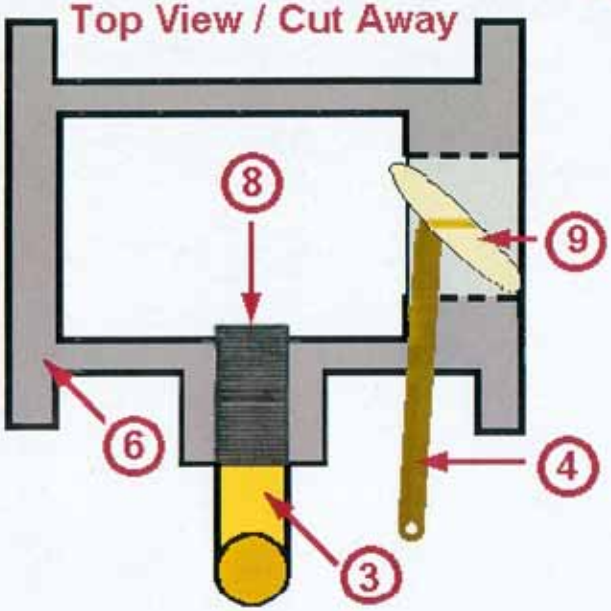
Which Drawing To Use?

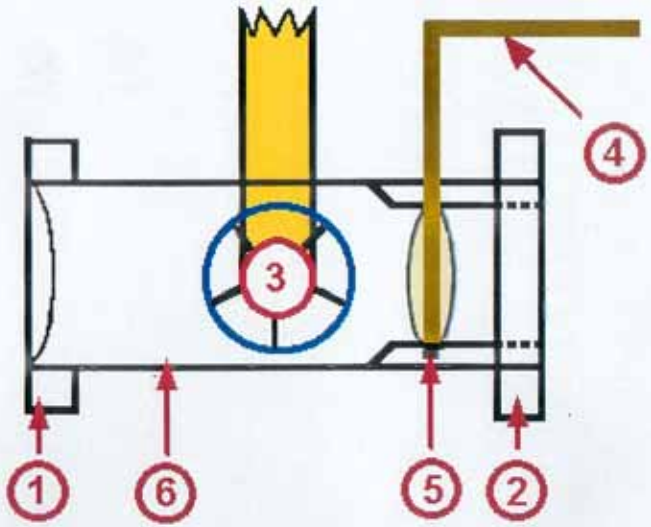
The drawing labeled *Small Engine Air Management Valve* (SE-005) was used on our "Dealer Demo Engines". Using this also required a *bubbler valve*. This is a manual (not automated) operation piece. It is NOT recommended for other than learning purposes. **Our recommendation is the drawing labeled *Air Management Valve Alternative* (SE-006).**

SMALL ENGINE AIR MANAGEMENT VALVE (AMV)

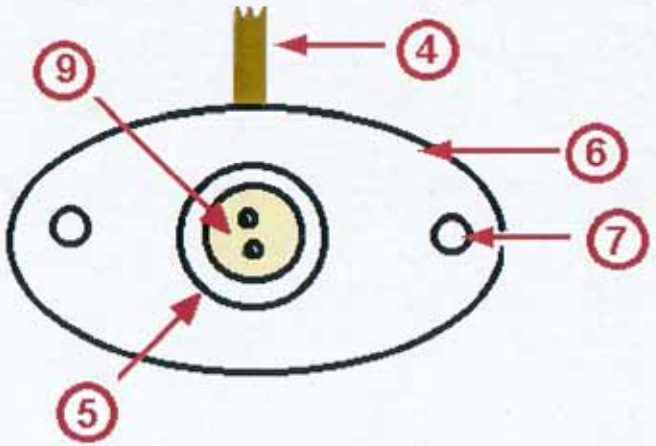
NOT TO SCALE

Top View / Cut Away





End View of Air Filter Side

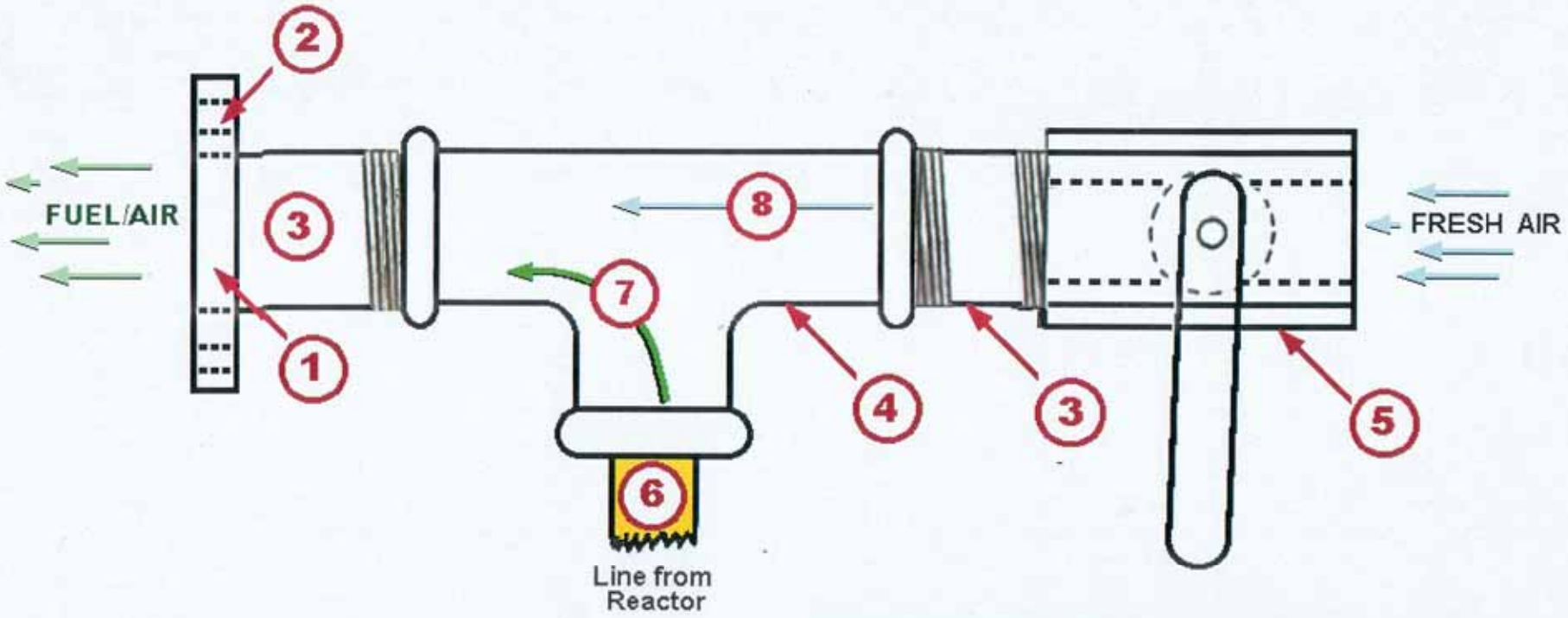


1) Mounting Flange to Intake Manifold
2) Mounting Flange to Air Filter
3) Compression Fitting for "Geet Fuel" from Reaction Chamber
4) Throttle Handle to Butterfly Valve
5) Machined Venturi
6) AMV Machined from Aluminum or Steel
7) Mounting Bolt Holes
8) Fuel Inlet Hole Drilled and Threaded
9) Butterfly Valve

GEET SMALL ENGINE		
SCALE: NONE	APPROVED BY:	DRAWN BY: SRE
DATE: 06/27/01		REV:
AIR MANAGEMENT VALVE (AMV)		
Component Drawing		DRAWING NUMBER: SE-005

AIR MANAGEMENT VALVE ALTERNATIVE

As an alternative to "machining" an "AMV" as in Drawing SE-005, you can construct a simple unit from plumbing parts found at your hardware store. This may be a more desirable method to start with.



1) Flange to Bolt to Engine Intake
2) Bolt Holes in Flange
3) 1/2" or 3/4" Nipples (Depending on Engine HP)
4) Steel or Brass 'T'
5) 1/2" or 3/4" Ball Valve
6) Brass Fitting for 1/2" Tubing
7) Fuel from Reactor
8) Fresh Air

GEET SMALL ENGINE		
SCALE: NONE	APPROVED BY:	DRAWN BY: SRE
DATE: 06/27/01		REV:
AMV, ALTERNATIVE		
Component Drawing		DRAWING NUMBER: SE-006
Copyright 2001, Paul Pantone, All Rights Reserved		

Final Notes

Some final words to help you on your way!

Putting It All Together

Big, small, or someplace in between, all of the necessary elements must come together into a usable package. To review, there are three sub assemblies:

1) **The phase change mechanism**, which is a bubbler, or a modified carburetor.
2) **The reaction chamber**, where the "magic" happens.
3) **The air management valve** which controls the fuel/air ratio and engine speed.

Certain things cannot be related on paper. You will learn more by running the engine for the first time then could be taught on a hundred pages of print. Remember, don't hesitate to call with your questions. We would rather spend 15 minutes on the phone and have you get it right, rather than being frustrated and unhappy with our products.

Summary

Believe it or not, the basic GEET system isn't too overly critical of sizes and dimensions. It is extremely critical of vacuum leaks. **If things aren't working well for you, check for any vacuum leaks.**

Start out on something small. Start out with manual controls and learn how the GEET works. Don't hesitate to call, fax, or E-Mail us with your questions.___GOOD LUCK

Inventor's Profile

Paul Pantone, GEET Research

Paul Pantone began working on the original concept of better mileage over twenty years ago. During the twenty years of testing and research, he was able to achieve the goals of ZERO Pollution, while running internal combustion engines on fuels such as crude oil, battery acid, cleaning solvents, even gasoline... some of the tests were done with mixtures with as much as 80% water. Having demonstrated the GEET Fuel Processor countless times, Paul has heard over and over that's impossible. Most scientists who have been invited to help in this project refuse to even come out to look at it, claiming it is impossible. Yet Paul has steadfastly held his ground and continued his work!

Paul,a self-taught accomplished inventor, has invented such things as a 25-caliber log splitter and "Instant Paint"—paint in a powdered form. With over 400 different inventions under his belt... he is skeptical about the patent system. Patent searches required before filing are are very costly and once a Patent is issued the entire world can see how and why your device works. Then competitors can scramble in to change just one or two small components, or even just the word, then claim Patent Protection for their invention.

He's had some startling encounters with attorneys over the years. Several Patent Attorneys were consulted for this technology... two of the Patent Attorneys got greedy and tried to run the business. One Patent Attorneyattempted to file a Patent for another party using a prototype stolen from Paul, less than a year after being hired to represent Mr. Pantone.

It is situations of this type that have made Paul so "gun shy" that he wants little or no input to his actions. If you want to work with Paul, you must put your proposal in writing or allow it to be recorded. He records many hours of information and conversations, knowing the party offering would never be truthful otherwise.

Paul Pantone has dedicated his life to clean up this planet for our children. In the end, it is only public awareness that this technology does exist that will provide the needed impetus to begin cleaning up the planet. and is needed to get it to the world.

APPENDIX A: Article from *Exotic Research Report* (Vol 3, No 3 ••• Oct/Nov/Dec 1999)

Backyard Plasma Technology

FREE GEET Multi-Fuel Conversion Plans

GEET releases Technology for FREE!

Paul and Molly Pantone
625 West 5300 South (PMB A-136), Murray, UT 84123

Reprinted from: **Exotic Research Report**
Vol 3, No 3 ••• Oct/Nov/Dec 1999

Benefitting all Mankind...

Paul and Molley Pantone, founders of Global Environmental Energy Technology and GEET Management, LLC released their **"Small Engine Plans" (engines with <20 HP) for FREE!**

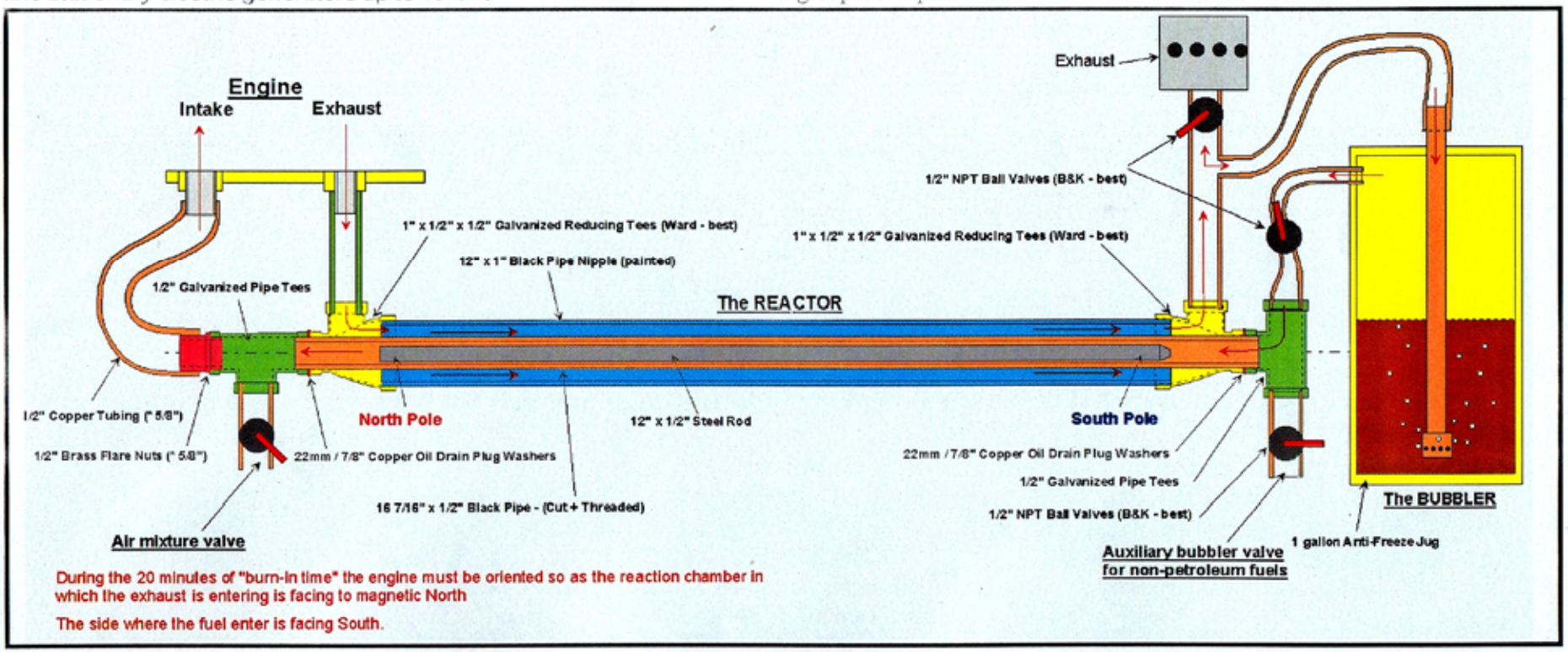
This is a shareware release for "Private Use Only" to convert small gasoline stationary electric generators up to 10 kW!

High school students with no technical background have been able to successfully build and run an engine over a weekend from plans.

They did this to benefit mankind and to help save lives had Y2K electrical supply problems been a reality. They will also accept voluntary contributions if builders would like to donate the original plans cost of $75 to help defer costs of developing larger versions for the market faster. Due to high costs, **only licensed users that pay the $75 will receive technical support.** A newsgroup is set up for builders that have the free plans to share experiences though. A 900 number is also being considered if needed for tech support for free plans.

The GEET Device...

The GEET Fuel Processor is a simplified "Plasma Reformer" that takes any hydrocarbon fuel or waste product and transforms it into Hydrogen rich "Synthetic Natural Gas". The "Small Engine Plans" will show how parts can be purchased and then built from plumbing parts from any local hardware store. Benefits include Multi-Fuel availability, and up to 99% lower emissions and double the run time or MPG!



GEET Fuel Processor Parts List

(Some Engines Only - 1/2" Steel Adapter Plate with 4 - 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" Galv. Reducing Tees (Ward - ;best)
2 - 22mm / 7/8" Copper Oil Drain Plug Washers
1 - 2" x 1/2" Galvanized Pipe Nipple
1 - 1/2" Galvanized Pipe Connector
1 - 1" Galvanized Pipe Hangar with Bolt & Nuts
3 - 1 1/2" x 1/2" Galvanized Pipe Nipples
1 - 3" x 1/2" Galvanized Pipe Nipple
3 - 1/2" NPT Ball Valves (B&K - best)
1 - 1/2" Galvanized NPT Muffler
2 - 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

This technology has the ability to be retrofitted to any internal combustion engine, including any gasoline, diesel, or turbine engine. Plans for larger versions will still be available through GEET Dealers to convert one vehicle for $175 or 10 vehicles $650, and deluxe plans are $950. Specialized parts (reaction chambers, air management valves, etc) are now available for purchase for people unable to make their own parts and will come in 4 sizes to retrofit most cars, trucks, etc.

Free Plan Overview

This is a greatly simplified "Proof of Concept" version of the GEET Fuel Processor that just about anyone can build from parts from a local Hardware store in a weekend for very low cost. A used lawnmower engine will be used for demonstration purposes so things will be easier to see without obstructions.

The basic configuration remains the same for any retrofit conversion to engines. More advanced versions are now available from GEET that use air management valves that combine all 3 valve functions with automatic sequencing, and also carburetor or fuel injection systems to replace bubblers in moving vehicles.

The 5 kW electric generators and 3.5 HP demonstration engines are available now from GEET. Complete component retrofit kits will be available shortly for most cars and trucks starting at $1,000 plus installation. Large Diesel and Turbine conversions will be available as soon as funding is available from investors.

Step-by-Step Instructions

Step 1-The first step in any construction job is to assemble all of the tools and materials needed. You need the following tools:

- pipe wrench
- crescent wrench
- spring tube benders
- pipe cutter,
- pipe flaring tool,
- allen wrench,
- file,
- screw driver.
- soldering equip

Obtain all your parts and tools needed for the conversion ahead of time. The parts list is in a table (left). 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 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 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. If anyone has a machine shop that would like to do this for others, contact GEET. We might also offer a complete kit that has all the parts ready to be assembled in minutes if there's enough interest.

Step 4 - Have 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"x1/2" 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, then add the 1/2" connector and 1/2" tee.)

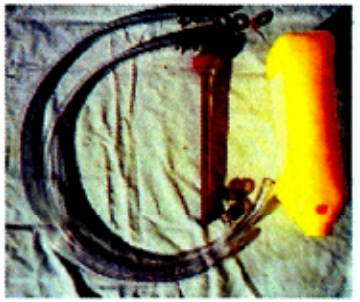
Step 5 - Assemble the other valve component subassemblies above. The 1/2" thick steel intake / exhaust adapter plate above is used only on some engines like "Tecumseh" and Overhead Valve Engines (picture 9). Some "Briggs and Stratton" engines, etc usually already have the exhaust threaded for 1/2" pipe, 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(Air Mixture Valve), 1 1/2" x 1/2"; nipple, 1/2" tee, 1 1/2" x 1/2" nipple, 1/2" valve (Throttle 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"x1/2" nipple, 1/2" tee, 1/2" to 1/4" pipe reducer bushing, half of 3" x 1/4" nipple, 1 1/2" nipple.

Step 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 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 thinwall portion to make a pipe nut and file smooth for inside the Anti-Freeze jug.

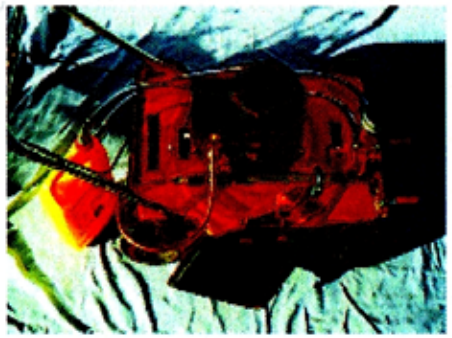
Step 8 - Take a 1 gallon anti-freeze jug and drill a 1/2" hole near the top of the jug and through the cap as illustrated. Assemble the parts together in the following order. (Hose, half of 3" x 1/4" nipple, 1/4" pipe connector, short 3/4" nipple, bushing, hole in jug, bushing, and pipe nut.) and ((Optional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



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".

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.

Final Notes: ***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 open, open the throttle and mixture valve about halfway, and start the engine by varying the air mixture valve. Then slowly increase the throttle wide open while adjusting the air mixture valve. Make sure to paint all external pipes and connectors with High Temperature Grill Paint or they will rust very quickly. (Except copper, brass or galvanized)

Finally - Experiment with the optional Back Pressure valve to run closed loop on heavy fuels, 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".

The beauty of this design is that it can be reconfigured in minutes.We plan to set up a 900 number shortly for technical questions, no calls for technical information will be taken at the main number. We also set up a newsgroup and FAQ for experimenters to exchange information and new discoveries. Have fun with it and tell us how it works out!_*PP*