

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-88  
Relating to Exemptions under Section 27156  
of the Vehicle Code

JOHN AND ASSOCIATES LTD.  
"REACTOR"

Pursuant to the authority vested in the Air Resources Board by Section 27156 of the Vehicle Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-5;

IT IS ORDERED AND RESOLVED: That the installation of the "Reactor" manufactured by John and Associates Ltd. of 3921 E. La Palma "N", Anaheim, California 92807, has been found to not reduce the effectiveness of required motor vehicle pollution control devices and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for 1979 and older vehicles except for the following:

1. Vehicles with engines under 140 CID.
2. Three way catalyst with feed back system.
3. Fuel injection systems.
4. Variable venturi carburetor systems.
5. Chrysler Lean Burn Engines.

The device consists of a cylinder with two sections. The top section contains an air modulating valve with a filter and is inserted into the PCV line. This valve permits a small amount of additional air to enter the PCV line. The bottom section carries fuel between the fuel pump and the carburetor. This device can be identified by the name "Reactor" permanently stamped at the bottom of the device housing.

This Executive Order is valid provided that installation instructions for this device will not recommend tuning the vehicle to specifications different from those listed by the vehicle manufacturer.

Changes made to the design or operating conditions of the device, as exempted by the Air Resources Board, that adversely affect the performance of a vehicle's pollution control system shall invalidate this Executive Order.

Marketing of this device using an identification other than that shown in this Executive Order or marketing of this device for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board.

This Executive Order does not constitute any opinion as to the effect that the use of this device may have on any warranty either expressed or implied by the vehicle manufacturer.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF THE "Reactor" device.

No claim of any kind, such as "Approved by Air Resources Board" may be made with respect to the action taken herein in any advertising or other oral or written communication.

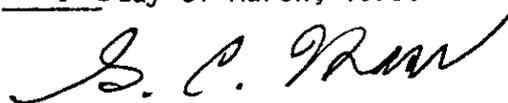
Section 17500 of the Business and Professions Code makes untrue or misleading advertising unlawful, and Section 17534 makes violation punishable as a misdemeanor.

Section 43644 of the Health and Safety Code provides as follows:

"43644. (a) No person shall install, sell, offer for sale, or advertise, or, except in an application to the state board for certification of a device, represent, any device as a motor vehicle pollution control device for use on any used motor vehicle unless that device has been certified by the state board. No person shall sell, offer for sale, advertise, or present any motor vehicle pollution control device as a certified device which, in fact, is not a certified device. Any violation of this subdivision is a misdemeanor."

Any apparent violation of the conditions of this Executive Order will be submitted to the Attorney General of California for such action as he deems advisable.

Executed at El Monte, California 12 day of March, 1979.



G. C. Hass Chief  
Vehicle Emissions Control Division

State of California  
AIR RESOURCES BOARD

February 26, 1979

Evaluation of the John and Associates  
L.T.D. "Reactor" Valve for Compliance  
with the Requirments of Section 27156  
of the California Vehicle Code

I. Introduction

John and Associates L.T.D. of 3921 E. La Palma "N", Anaheim, California, 92807, has submitted an application requesting an exemption for their "Reactor" valve from the prohibitions of Section 27156 of the California Vehicle Code for the 1979 and older model year vehicles. (Exhibit A). Section 27156 of the vehicle code prohibits the advertisement, sale and installation of any device or mechanism which reduces the effectiveness of the motor vehicle emission control system.

The Air Resources Board (ARB) staff has previously evaluated a similar device (Staff Reports dated April 11, 1974 and August 2, 1974) and found the device had no adverse effects on the emission control system. Executive Orders D-28 dated April 19, 1974 and D-28-1 dated August 13, 1974 were issued to B. C. and L. Industries for 1974 and older model year vehicles with engines greater than 140 CID. These devices are known as the "BC & L Air Bleed Valve" and the "Jet Blast". (Appendix I)

## II. System Description and Function

The "Reactor" valve is a two stage cylinder. The upper section consists of the "BC & L Air Bleed Valve" also known as the "Jet Blast" and the lower section takes fuel from the fuel pump and feeds it to the carburetor. It is claimed that the cylinder acts as a heat exchanger transferring heat from the blowby gas in the upper cylinder to the cooler fuel in the lower one. (Exhibit B)

## III. System Evaluation

The staff had some questions concerning the possible leakage of fuel and the securing of the "Reactor" valve so that it will not ride free. In reply the applicant submitted a clamp which will be used to fasten the "Reactor" to the side of the air cleaner. In addition the applicant changed the nozzles so that the rubber hoses would not be cut by the tightened clamps holding the hoses to the nozzles. The two sections of the cylinder are threaded and an "O" ring is inserted between them. The sections are so tightened at the factory that the customer cannot separate them. The staff feels that these precautions may be adequate.

The applicant also submitted emission data derived from tests performed at the Olson Laboratories. The data from these tests showed no adverse effects on emissions confirming the previous data discussed in the attached staff reports. However, the ARB laboratory performed bench tests on the device and these showed that the flow was not within acceptable limits. The applicant then changed the spring and added a filter. The tests were repeated and this time the flows were within acceptable limits. (Exhibit C)

#### IV. Manufacturer's Claims

The applicant submitted the following claims: (Exhibit D)

1. Up to 20% increase in gas mileage
2. Added horsepower
3. Cleaner spark plugs
4. Less engine wear

The applicant did not submit any data to support these claims and, therefore, the staff was of the opinion that these claims may not be valid. The applicant agreed to revise his claims and submitted Exhibit E.

V. Conclusions and Recommendations

The staff is of the opinion that the installation of this device would not effect the performance of the conventional emission control system and, therefore, recommends that the "Reactor" valve be granted an exemption from the prohibitions of Vehicle Code Section 27156 for 1979 and older model vehicles except for the following:

1. Vehicles with engines under 140 CID
2. Three-way catalyst with feed back system
3. Fuel Injection Systems
4. Variable Venturi Carburetor Systems
5. Chrysler Lean Burn Engines

The staff therefore recommends adoption of Executive Order D-88.

I. Name of Device Manufacturer JOHN Y ASSOCIATES L.T.D.  
 Address 3921 E. LA PALMA "N"  
ANAHEIM, CALIF. 92807  
 Phone (714) 964-1024 714 632-6800  
 Name of Authorized Representative\* JOHN W. DABRIO  
 Address 10343 SLATER 202  
FOUNTAIN VALLEY, CALIF. 92708  
 Phone (714) 964-1024

II. Device Name "REACTOR" MFG. UNDER U.S. PAT No 3923024 & DOCKET  
 Patent Number or Patent Pending Reference (if applicable) No. 8418  
 Purpose of the Device TO INCREASE ALL-AROUND ENGINE  
PERFORMANCE AND EFFICIENCY  
 Brief Description of the Device Operation THE REACTOR IS A TWO STAGE  
CYLINDER. THE UPPER HALF IS THE OLD JET BLAST AIR METERING VALVE  
DISTRIBUTED BY BCYL INDUSTRIES, INC. THE LOWER HALF TAKES FUEL FROM THE  
FUEL PUMP TO HELP COOL THE UPPER HALF, <sup>ALSO</sup> ACTING AS A HEAT EXCHANGER EXPANDING THE  
GAS.  
 List vehicle makes, model years and systems (HEI ignition, rotary, diesel,  
 etc.) that are compatible with this device, and for which exemption  
 is requested. ALL GAS ENGINES EXCEPT FUEL INJECTION AND  
ENGINES UNDER 140 CID. ALL YEARS

List vehicles and systems that are incompatible with this device. \_\_\_\_\_  
DIESEL - FUEL INJECTION AND ENGINES UNDER 140 CID  
3 way carburetor

\*An applicant, if different from the manufacturer, must supply proof in the form of a letter signed by the manufacturer, that he is authorized to act on the manufacturer's behalf.

What benefits are claimed for this device? Please supply technical substantiation for all claims. INCREASE H.P. SMOOTHER RUNNING AND

GAS SAVINGS

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III. The following items are usually required for a California Air Resources Board (CARB) evaluation. Please check the ones enclosed with this application and give an explanation for excluding items that are not checked.

- A detailed description of the device and its operation.
- Drawings and/or schematics of the device.
- Advertising material to be used in selling the device.
- A sample or facsimile of packaging labels.
- A sample or facsimile label showing the name of the device and the space reserved for the CARB E.O. number (exemption number).
- A list of manufacturers, distributors and installers. This should include the names, addresses and telephone numbers of persons who will service the device.
- Detailed installation and/or maintenance instructions. (These instructions, including drawings, must be identical to those packaged with the device).
- Test results (if available).

The CARB may request one or more devices for testing. Do you agree to provide the device(s) free of cost if the request is made?

Yes       No

IV. Safety and Emissions Statements

I affirm that this device (1) shall not cause the emission into the ambient air of any noxious or toxic matter that is not emitted in the operation of such motor vehicle without such device, and (2) shall not result in any unsafe condition endangering the motor vehicle, its occupants, other persons, or property in close proximity to the vehicle, in accordance with the safety requirements specified for the original vehicle.

Signature of Authorized Representative

John W. Dalzio  
PRESIDENT OF JOHN Y ASSOCIATES LTD.

Date NOV. 25, 1978

WHAT THE  
REACTOR  
IS ALL ABOUT

BETTER GAS MILEAGE \* BETTER PERFORMANCE \* MORE HORSEPOWER  
WITH LESS GAS \* QUICKER ACCELERATION \* ALL OF THIS EQUALS  
REDUCED MAINTENANCE AND OPERATING COST TO YOU.

The REACTOR is a scientifically engineered, precision regulator, that automatically induces cool, fresh air into the induction system of your automobile engine, producing a more efficient combustible fuel air mixture. The lower half of the valve is a heat exchanger using cool gasoline to cool the upper half and at the same time heating the gasoline and expanding it for better fuel economy.

This automatically controlled valve (controlled and operated by vacuum) opens only when the fuel air mixture is rich. Opening only sufficiently to give the proper fuel air ratio. There is no way that the REACTOR can cause a lean mixture. This valve will only meter air to a rich mixture.

WHY YOUR AUTO NEEDS A REACTOR

Engines normally burn only 50 to 60% of the gasoline injected into them. All engines extracts chemical energy from the fuel by burning the fuel. Burning is defined as rapid oxidation or recombination with oxygen. Burning therefore requires sufficient oxygen. Gasoline engines with their inefficient metering system seldom meters an adequate supply of oxygen with the fuel. As a result, when the mixture is brought up to it's flash point, sometimes there is very little oxygen present for the fuel molecules to combine with, thus the fuel can not burn and release its energy, it only chars and turns to carbon.

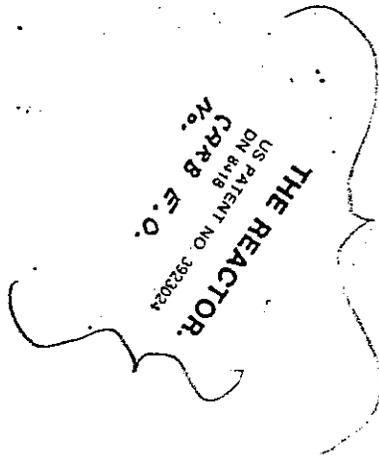
Edwin D. Whiting  
7319 E. Pierce  
Scottsdale, AZ 85257

This is a record of my mileage, gallons of gas used and percentages of gain by using the JET BLAST, and then the REACTOR on my 1973 Oldsmobile 98.

I have kept records since before Christmas 1977 until the present, (September 18, 1978). Odometer reading at start 62,135 and ending on the above date 68,882.

MPG	No gas saving device	9.32	
MPG	With Jet Blast	11.31	22%
MPG	With Reactor	13.42	44%

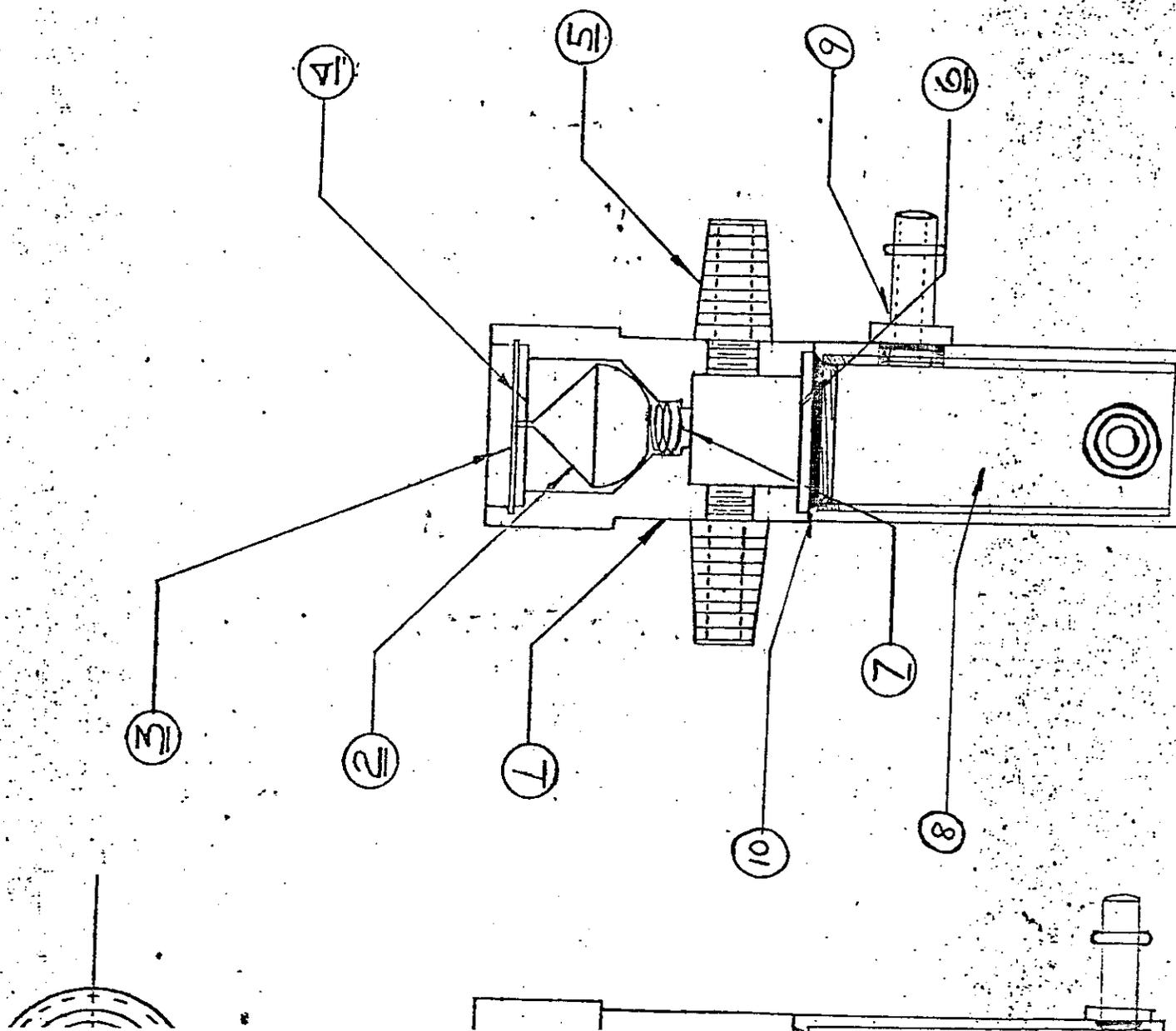
*Edwin D. Whiting*  
EDWIN D. WHITING



Reactor Label

- 1 VALVE BOLT
- 2 PISTON
- 3 SNAP RING
- 4 PERFORATED DISC
- 5 HOSE FITTING
- 6 DISC
- 7 SPRING
- 8 FUEL BODY
- 9 HOSE FITTING
- 10 1/2" O" RING SEAL
- 11 1/2" O" RING SEAL

THE REACTOR PAT. PEND.  
 MFG. BY JOHN Y ASSOCIATES L.T.

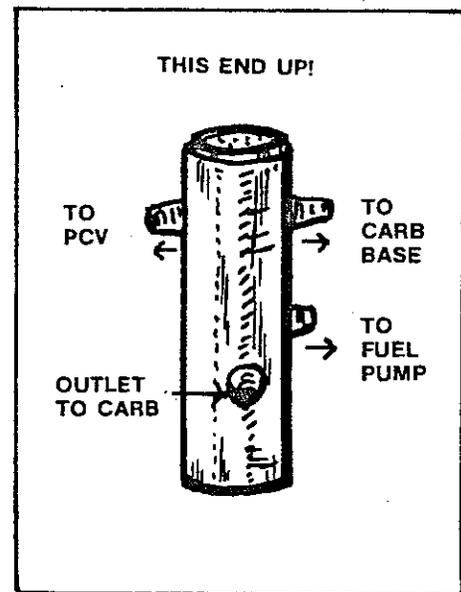


## MOST ENGINES ARE SUFFOCATING!

Engines normally burn only 50 to 60% of the gas injected into them, starving for sufficient oxygen which would enable adequate combustion. Without enough oxygen, gas cannot completely ignite to release its energy capabilities. This unburned, charred fuel carbons up spark plugs, valves and pistons. The result is unrealized horsepower potential and performance, wasted fuel, engine parts damage and spark plug deterioration.

**THE REACTOR** is an aeronautical engineered precision aluminum and steel constructed valve that is vacuum operated. The first stage adds cool fresh air into the fuel induction system, increasing the oxygen-to-fuel ratio. This superior mixture substantially improves combustion capability. The second stage cools the valve while preconditioning the fuel for even more efficient combustion.

Changes in vacuum pressure vary the position of the valve from fully opened to completely closed. Acceleration opens the piston to induct outside air into the rich fuel/air mixture. During cruising speeds, subtle changes in vacuum regulate air into fuel, producing peak gas ignition. On deceleration or when the fuel mixture is sufficiently lean, the valve closes further outside air induction. The innovative second stage of **THE REACTOR** acts as a heat exchanger. The valve is cooled by gas, the absorbed heat even further increasing efficiency of combustion.



## JUST FOLLOW THESE EASY INSTRUCTIONS

- (1) Remove carb air cleaner for easy access.
- (2) Locate rubber hose that connects PCV valve to base of carburetor.
- (3) Cut hose with sharp knife close to carb, but be sure there is clearance for **THE REACTOR** before cutting.
- (4) Push top nipples of **THE REACTOR** into open ends of hose. Make as vertical as possible. **NOTE:** Nipples will fit  $\frac{3}{8}$ " to  $\frac{1}{2}$ " hoses without clamps. Use hose clamps (not included) for larger hoses.
- (5) Cut fuel line and remove a 10-12" section. Using accompanying hose, attach to carb and to the lowest nipple.
- (6) Fit hose from fuel pump to the remaining (Inlet) nipple. Fasten securely with clamp supplied.
- (7) Drill two holes in outer shell of air filter. With metal screws, secure **THE REACTOR** to the air filter body.

For best results, be sure PCV valve is working properly. Regap old spark plugs when necessary for maximum efficiency. A simple swish in solvent or gasoline every 15,000 miles will keep **THE REACTOR** like new.

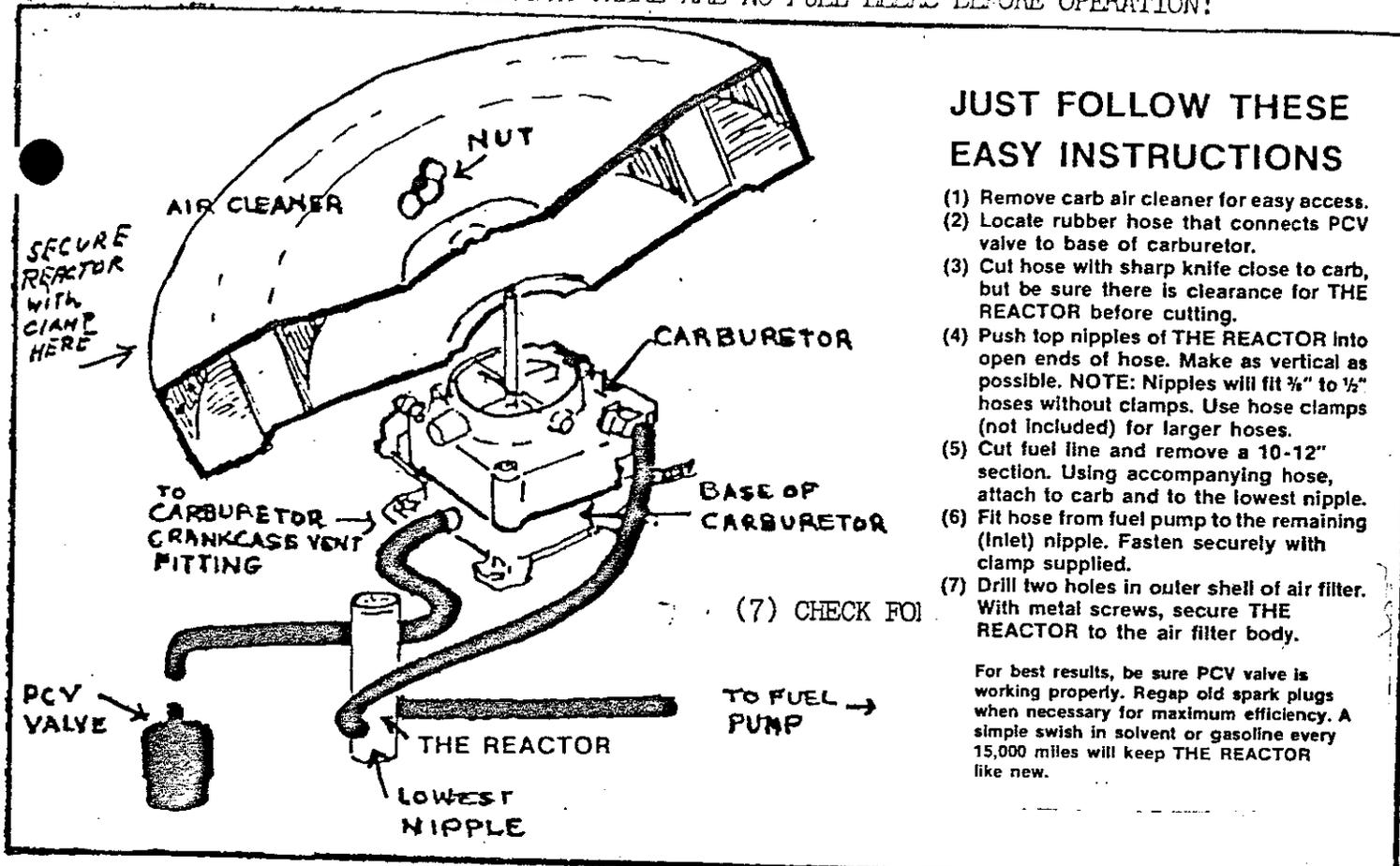
## ANOTHER PRODUCT OF JOHN & ASSOCIATES, LTD.

### INCREDIBLY TWICE GUARANTEED!!

**THE REACTOR** has been so extensively tested and so finely built and engineered that:

- (1) It is guaranteed to perform like new for three years from date of purchase by retail customer.
- (2) Any unit which develops a malfunction or is deficient in workmanship or materials and which has not been damaged by misuse, negligence, improper installation or accident will be replaced free of charge.

WARNING: MAKE POSITIVE THERE ARE NO FUEL LEAKS BEFORE OPERATION!



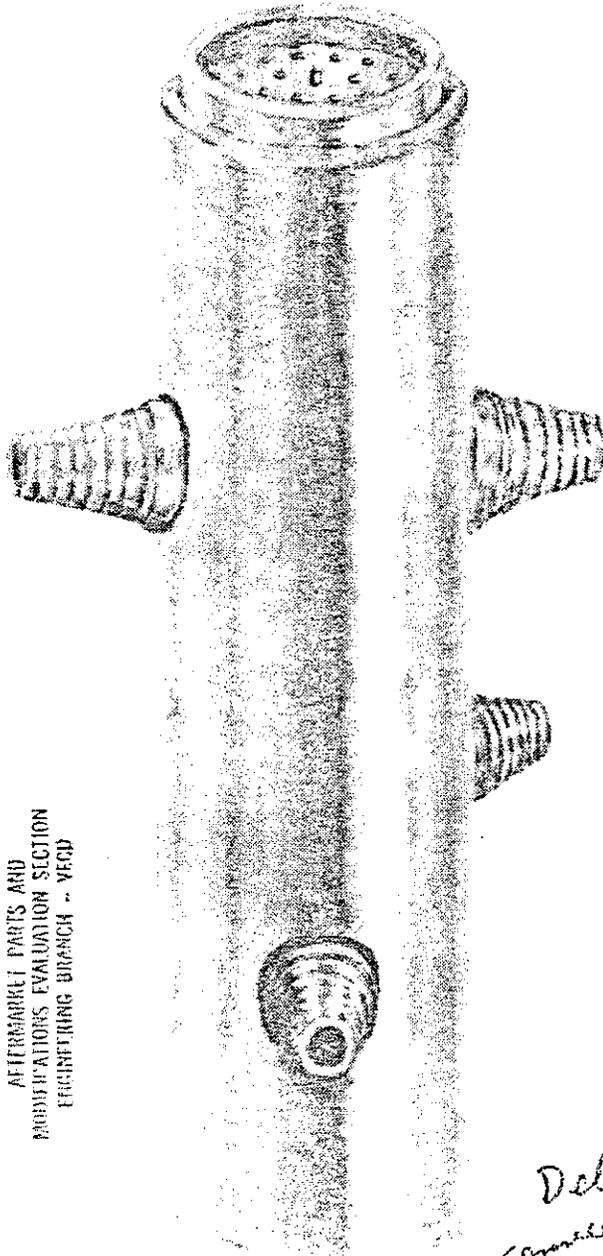
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ANOTHER PRODUCT OF JOHN & ASSOCIATES, LTD.

# THE SIMPLEST MOST EXCITING GENERAL AUTOMOTIVE AFTER-MARKET PRODUCT EVER DEVELOPED!



THE REACTOR is a two-stage engineering improvement to the original Ram Air Inductor, retaining all its performance benefits PLUS guaranteed gas savings of ~~up to 20%~~ ~~Many customers have reported even more!~~

THE REACTOR produces varying degrees of engine and gas consumption benefits due to size, condition and driving habits. However 300,000 satisfied customers already experience remarkable gas savings, automatic spark plug cleaning, reduced carbon build up, plus increased horsepower and reduced engine wear! Now THE REACTOR does even more!

Equally effective for cars, trucks, vans, farm tractors and boats, the only requirement is that the engine be equipped with a Positive Crankcase Ventilation (PCV) Valve and vacuum hose connection from the engine to the carburetor. Virtually all domestic and some imported cars and trucks manufactured since 1963 ARE so designed. However, many imports with PCV valves integrated into the carburetor base require PCV and vacuum hose modifications before installation of THE REACTOR.

US PATENT NO. 3923024  
DN 8418

THE REACTOR pays for itself many, many times due to reduced fuel consumption, reduced engine wear, prolonged spark plug life plus the satisfaction of driving a top performing vehicle.

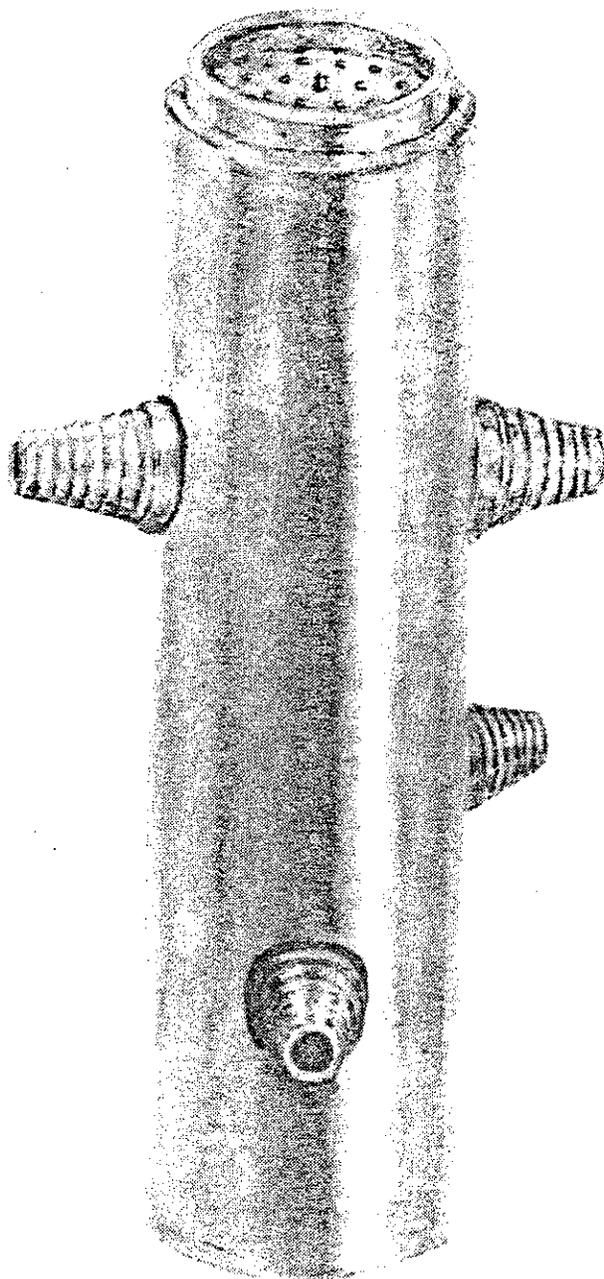
*Deleted by  
Telephone conversation  
between John Dabris and  
H. H. H. on 3/6/79*

RECEIVED  
MAR 6 1979  
AFTERMARKET PARTS AND  
MODIFICATIONS EVALUATION SECTION  
ENGINEERING BRANCH - VECD

## FOR INCREASED PERFORMANCE...

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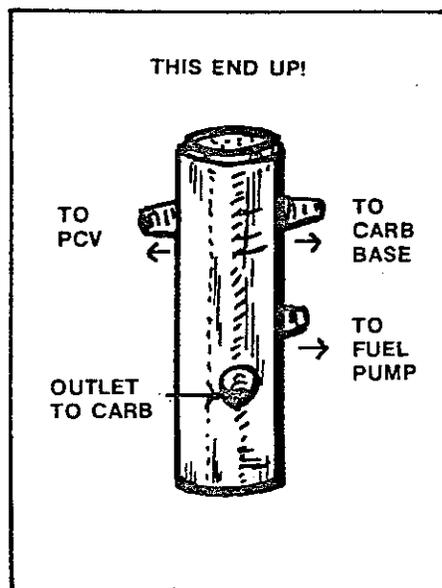
## MOST ENGINES ARE SUFFOCATING!

PERFORMANCE RESULTS vary depending upon engine size, condition, driver operation, road and atmospheric conditions.

Engines normally burn only 50 to 60% of the gas injected into them, starving for sufficient oxygen which would enable adequate combustion. Without enough oxygen, gas cannot completely ignite to release its energy capabilities. This unburned, charred fuel carbons up spark plugs, valves and pistons. The result is unrealized horsepower potential and performance, wasted fuel, engine parts damage and spark plug deterioration.

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