

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-88-1  
Relating to Exemptions under Section 27156  
of the Vehicle Code

JOHN W. DABRIO  
"TRI-ACT"

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 "Tri-Act" device manufactured by John W. Dabrio has been found not to 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 1987 and older gasoline-powered vehicles except for the following:

1. Vehicles with engines under 140 CID
2. Three-way catalysts with feedback systems
3. Fuel injection systems
4. Variable venturi carburetor systems
5. Chrysler Lean Burn Engines

This Executive Order is valid provided that installation instructions for this device will not recommend tuning the vehicle to specifications different from those submitted by the device 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. Exemption of a kit shall not be construed as an exemption to sell, offer for sale, or advertise any component of a kit as an individual device.

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 "TRI-ACT" 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 represent 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, this 18<sup>th</sup> day of June, 1987.

  
K. D. Drachand, Chief  
Mobile Source Division

State of California  
AIR RESOURCES BOARD

EVALUATION OF JOHN W. DABRIO'S "TRI-ACT" DEVICE FOR EXEMPTION FROM  
THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 IN ACCORDANCE WITH  
SECTION 2222, TITLE 13, OF THE CALIFORNIA ADMINISTRATIVE CODE

June 1987

June, 1987

State of California  
AIR RESOURCES BOARD

Evaluation of John W. Dabrio's "Tri-Act" Device for exemption from  
the prohibitions of Vehicle Code Section 27156 in accordance with  
Section 2222, Title 13, of the California Administrative Code

by

Mobile Source Division  
State of California  
Air Resources Board  
9528 Telstar LAvenue  
El Monte, CA 91731

(This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.)

## SUMMARY

John W. Dabrio of San Diego, California has requested an update of the existing Executive Order (E.O.) D-88 for his "Tri-Act" (previously named "Reactor") device from the prohibitions of Section 27156 of the California Vehicle Code. The update is requested for 1980-1987 model-year carbureted vehicles with engine size greater than 140 CID.

Based on the previously submitted exhaust emission test results, the past bench test results, and an engineering evaluation of the fuel systems on 1979 through 1987 model-year vehicles, the staff concludes that the "Tri-Act" device will not adversely affect the exhaust emissions of specified vehicles.

The staff recommends that the "Tri-Act" device be exempted as requested and that E.O. D-88-1 be issued.

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EVALUATION OF JOHN W. DABRIO'S "TRI-ACT" DEVICE FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE CALIFORNIA ADMINISTRATIVE CODE

I. INTRODUCTION

John W. Dabrio of San Diego, California has requested an update of the existing Executive Order (E.O.) D-88 for his "Tri-Act" (previously named "Reactor") device from the prohibitions of Section 27156 of the California Vehicle Code. The update is requested for 1980-1987 model-year carbureted vehicles with engine size greater than 140 CID.

The existing E.O. D-88, dated March 12, 1979, allowed John and Associates LTD.'s "Reactor" device to be installed on limited 1979 and older model-year carbureted vehicles with engine size greater than 140 CID.

John and Associates LTD. was the previous manufacturer of this device. The same device is now called "Tri-Act" and is now manufactured by John W. Dabrio.

II. CONCLUSION

Based on the previously submitted exhaust emission test results, the past bench test results, and an engineering evaluation of the fuel systems on 1979 through 1987 model-year vehicles, the staff concludes that the "Tri-Act" device will not adversely affect the exhaust emissions of the specified vehicles.

III. RECOMMENDATION

The staff recommends that the "Tri-Act" device be exempted as requested and that E.O. D-88-1 be issued.

IV. SYSTEM DESCRIPTION AND FUNCTION

The "Tri-Act" device 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. The BC & L Air Bleed Valve is installed in the PCV line between the PCV valve and the carburetor. The top section of the device has a modulating poppet which meters the quantity of filtered air bleed into the engine. Engine vacuum determines the degree of poppet opening which controls the amount of air bleed. As the engine vacuum increases (deceleration and idle), the poppet closes and restricts the air flow to the engine. The poppet is opened to its maximum position at low manifold vacuum (high speed and open throttle). When the engine is not operating, the poppet is also in the open position.

The applicant claims 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.

#### V. DISCUSSION

The Reactor (now known as the Tri-Act) device has been exempted from the prohibitions of section 27156 of the California Vehicle Code for limited 1979 and older model-year gasoline-powered vehicles with engine size greater than 140 CID. The exemption was based on the submitted exhaust emission test results and based on the ARB laboratory bench tests on the device.

John W. Dabrio is now applying for an update of the existing E.O. D-88 in order to be allowed to install the "Tri-Act" device on limited 1980-1987 vehicles. This device is identical to the one that was previously exempted.

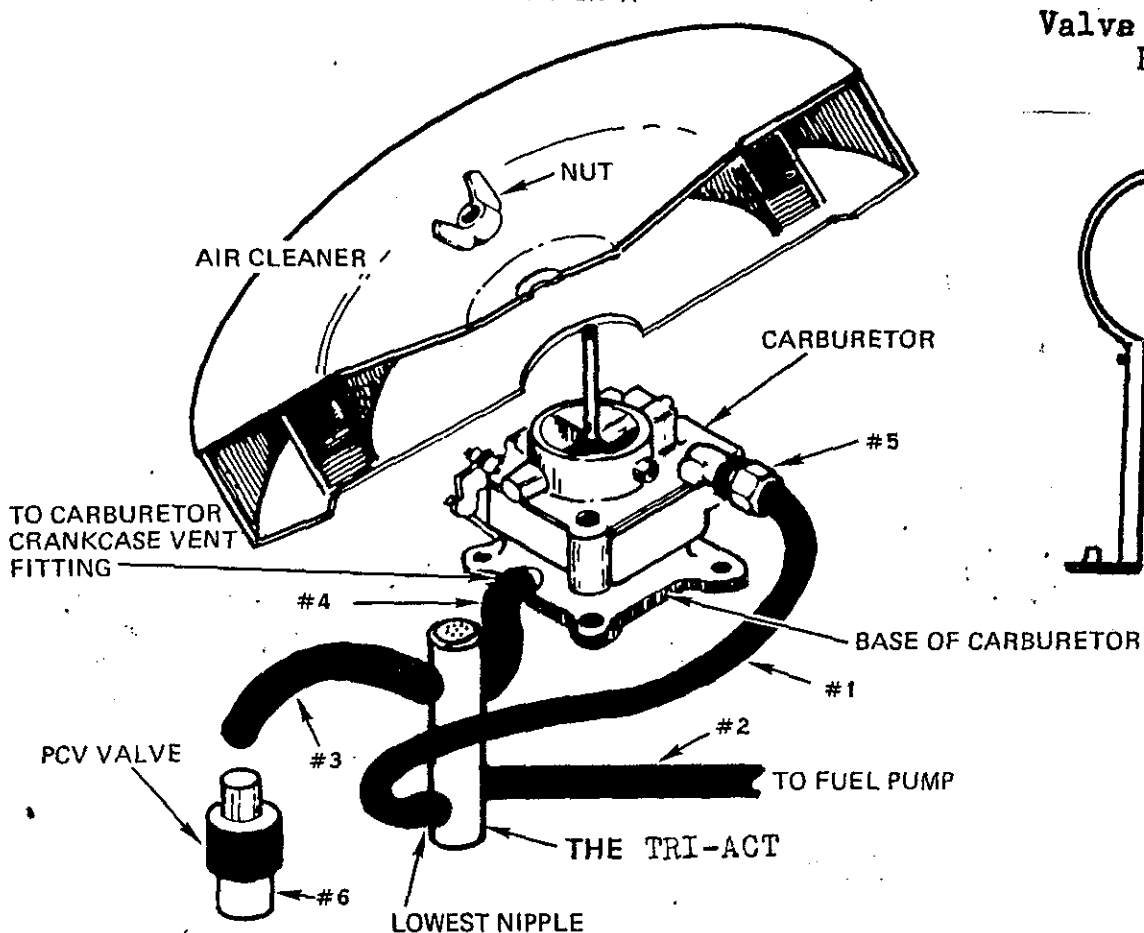
In response to his request, the staff compared the fuel systems of pre 1979 and post 1979 (including 1987) model-year vehicles. No significant



differences were noted between fuel systems' designs of the applicable vehicles even though new cars tend to operate more fuel efficient. Based on the above, the staff is of the opinion that the installation of this device on applicable 1980-1987 vehicles will not affect the performance of their conventional emission control systems and recommends that the "Tri-Act" device be granted an updated exemption from the prohibitions of Vehicle Code Section 27156 for the specified vehicles. No additional testing was required or performed.

## APPENDICES

## APPENDIX A



## INSTALLATION INSTRUCTIONS

We recommend you have your TRI-ACT installed by your mechanic.

1. Remove Air cleaner for easy access to P.C.V. valve hose and fuel line.
2. Locate a position to install the TRI-ACT making sure to clear outer edge of air cleaner, also try to stay within 12 inches of the CARB. fuel connection. At the same time, note the position of the P.C.V. valve hose and where you intend to cut. Remember, you also want the P.C.V. valve hose connection between the TRI-ACT and CARB crankcase vent fitting to be as short as possible.
3. Now, cut the fuel line at the point you selected for the fuel hose connection. It's a good idea to remove about 3 to 4 inches of fuel line to provide room for your fuel hose connections.  
NOTE: Use a tube cutter to cut fuel line. Do not use a file. You may have to disconnect the fuel line at the CARB. to make room for the tube cutter.
4. Make the fuel hose connections on the TRI-ACT with hose and clamps provided). Try not to use more than a total of 2 feet of fuel hose (#1 and #2 on diagram combined). Make sure the clamps are secure, but not too tight to cut into hose.
5. Next, connect the two top nipples on the TRI-ACT between the P.C.V. valve and CARB. crankcase vent fitting. You may need to use the leftover fuel hose to make this connection. Note a short piece of the leftover metal fuel line will sometimes be useful to make a joint to extend the P.C.V. valve hose in order for it to reach the two top nipples on the TRI-ACT NOTE: The two top nipples will fit 3/8" to 1/2" hoses without clamps. Use hose clamps (not included) for larger hoses.
6. Now, double check ALL connections. The TRI-ACT should be as vertical as possible. Make sure the fuel hose is free from too much tension & not crimped. Too much tension on fuel hose connections could cause the hose to break or work loose.
7. Before replacing air cleaner, START YOUR ENGINE AND LET IDLE.

IF MY SPARK PLUGS ARE WORN OR HAVE OVER FIVE THOUSAND MILES ON THEM, WILL I GET GOOD RESULTS FROM THE TRI-ACT ~~XXXXXX~~?

NO. IN FACT, YOU COULD HAVE A REDUCTION IN GAS MILEAGE. THIS WOULD BE CAUSED BY THE CLEANER BURN THAT THE TRI-ACT GIVES. RESULTING IN TOO WIDE A GAP ON THE ELECTRODES. REGAP PLUGS OR REPLACE.

WILL THE CARBURETOR NEED ANY ADJUSTMENTS AFTER INSTALLING THE TRI-ACT ~~XXXXXX~~?

IT MAY BE NECESSARY TO RE-ADJUST THE IDLE ADJUSTMENT.

IF THE P.C.V. IS NOT WORKING, WILL THE TRI-ACT ~~XXXXXX~~ WORK?

NO. IF THE P.C. VALVE IS NOT WORKING, THE TRI-ACT ~~XXXXXX~~ MAY NOT CLOSE. YOU CAN CHECK WITH THE ENGINE AT IDLE. THE VALVE SHOULD BE CLOSED AT THIS TIME. REPLACE P.C. VALVE.

IF I INSTALL THE TRI-ACT ~~XXXXXX~~ PROPERLY, ACCORDING TO INSTRUCTIONS AND THE VALVE IN THE TRI-ACT DOES NOT CLOSE, WHAT SHOULD I DO?

CHECK TO INSURE P.C.V. IS WORKING PROPERLY. IF NOT REPLACE P.C.V. IF P.C.V. IS GOOD, REMOVE VACCUM HOSE FROM BASE OF CARBURETOR, CHECK FOR CRACKS OR CUTS, IF BAD REPLACE. PLACE FINGER OVER END OF HOSE WITH THE ENGINE RUNNING TO CHECK FOR VACCUM. IF THERE IS NO VACCUM OR VERY LITTLE THE HOSE OR HOSE FITTING AT THE BASE OF CARBURETOR IS PLUGGED WITH SLUGE OR CARBON. CLEAN AND REINSTALL HOSE.

IF THE P.C.V. IS INSTALLED AT THE BASE OF THE CARBURETOR WILL I HAVE TO REMOVE THE P.C.V.?

YES REMOVE THE P.C.V. FROM THE BASE OF THE CARBURETOR. THE ~~XXXXXX~~ TRI-ACT MUST BE BETWEEN THE P.C.V. AND THE CARBURETOR. REPLACE THE P.C.V. WITH THE INLINE P.C.V. INCLUDED WITH THE TRI-ACT ~~XXXXXX~~. THE P.C.V. SHOULD BE PLACED ABOUT THREE INCHES FROM THE TRI-ACT ~~XXXXXX~~ AS SHOWN IN THE DRAWING.

APPENDIX C

LIMITED WARRANTY

THE MANUFACTURE WARRANTS EVERY TRI-ACT SOLD TO BE FREE OF ANY DEFECTS IN MATERIALS AND/OR WORKMANSHIP , TO THE REASONABLE SATISFACTION OF THE PURCHASER.

IF FOR ANY REASON THE TRI-ACT FAILS TO PERFORM UP TO THE MANUFACTURERS SPECIFICATIONS, THE PURCHASER MAY RETURN THE TRI-ACT ~~X~~ TO POINT OF PURCHASE WITHIN THIRTY DAYS, ALONG WITH PROOF OF PURCHASE AND RECEIVE IMMEDIATE SATISFACTION UNDER ONE OF THE FOLLOWING CONDITIONS.

1. IF YOU PURCHASED THE TRI-ACT FROM A RETAIL DEALER YOU MAY RECEIVE A REPLACEMENT TRI-ACT OR ~~X~~ FULL RETAIL PRICE PAID. LABOR COST (IF ANY) NOT INCLUDED WITH REFUND.
2. IF YOU ARE A DEALER, SELLING RETAIL TO PURCHASERS, YOU WILL RECEIVE REPLACEMENTS FOR ALL DEFECTIVE TRI-ACT DEVICE.

DEALER'S NAME AND ADDRESS \_\_\_\_\_

PURCHASERS NAME \_\_\_\_\_

DATE OF PURCHASE \_\_\_\_\_

THE MANUFACTURE HAS PRODUCT LIABILITY OF \$100,000.00  
THE VALVE CAN NOT DAMAGE YOUR ENGINE.

STATE OF CALIFORNIA  
AIR RESOURCES BOARD

RECEIVED

JUN 10 1987

AFTERMARKET PARTS SECTION  
NEW VEHICLE PROGRAMS BRANCH  
MOBILE SOURCE DIVISION

Vehicle Code Section 27156 Exemption Application

1. John W. Dabrio  
4344 Van Dyke Ave. #1 San Diego, Ca. 92105  
(619) 284-1676
2. John W. Dabrio  
4344 Van Dyke Ave. #1 San Diego, Ca. 92105  
(619) 824-1676
3. John W. Dabrio  
4344 Van Dyke Ave. #1 San Diego, Ca. 92105
4. TRI-ACT
5. The TRI-ACT produces a better fuel evaporation.
6. The tRI-ACT operating on engine vaccum opens when the vaccum is low and permits additional air to enter the intake system and closes when the vaccum goes up. The device is also a heat exchanger, heating the fuel for a better evaporization