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State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-24  
Relating to Exemptions under Section 27156  
of the Vehicle Code

ST. CLAIR SALES AND DISTRIBUTION, INC.  
"LIFT FUEL EFFICIENCY SYSTEM"

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 Section 39023 of the Health and Safety Code;

IT IS ORDERED AND RESOLVED: That the installation of "Lift Fuel Efficiency System" manufactured by St. Clair Sales and Distribution, Inc., 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 1974 model-year vehicles and older. This device consists of a plastic bottle, rubber hose, and proprietary fluid. This exemption is only valid on devices equipped with .022 inch orifice diameter, Part No. B-1 and fluid specification number 1072.

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

Changes made to the design or operating conditions of the device as originally submitted to the Air Resources Board for evaluation that adversely affect the performance of the vehicle's pollution control devices 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 have prior approval of the Air Resources Board.

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 "LIFT FUEL EFFICIENCY SYSTEM" 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 unlawful, untrue or misleading advertising and Section 17534 makes violation punishable as a misdemeanor.

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Section 39130 and 39184 of the Health and Safety Code provide as follows:

"39130. No person shall install, sell, offer for sale, or advertise, or, except in an application to the board for certification of a device, represent, any device as a motor vehicle pollution control device unless that device has been certified by the 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 section is a misdemeanor."

"39184. No person shall install, sell, offer for sale, or advertise, or, except in an application to the board for accreditation 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 accredited by the board. No person shall sell, offer for sale, advertise, or represent any motor vehicle pollution control device as an accredited device. Any violation of this section is a misdemeanor."

Any apparent violation of the policy or laws will be submitted to the Attorney General of California for such action as he deems advisable.

Executed at Sacramento, California, this 18 day of January, 1974.

WILLIAM SIMMONS  
Executive Officer

State of California

AIR RESOURCES BOARD

January 22, 1974

Staff Report

Evaluation of St. Clair Sales & Distribution, Inc.  
"Lift Fuel Efficiency System"  
(Vapor Injector)  
for Exemption from the Prohibitions  
of Section 27156 of the Motor Vehicle Code

I. Introduction

St. Clair Sales & Distribution, Inc. of Mt. Clemens, Michigan, has applied for exemption from the prohibitions of Section 27156 of the Motor Vehicle Code for its "Lift Fuel Efficiency System". This section prohibits the installation of any device which reduces the effectiveness of the motor vehicle emission control system. The applicant is requesting an exemption for 1966-1974 model-year vehicles.

Based on statements received from St. Clair Sales, they have exclusive manufacturing and marketing rights to the system described herein.

Except for the control valve and fluid, the "Lift Fuel Efficiency System" is the same in all respects as the "Turbo Vapor Injector" which was granted an exemption from the prohibitions of Section 27156 by Executive Order D-2, dated April 17, 1973 for 1970 and older vehicles.

II. System Description

This device consist of a vapor injection system and proprietary fluid which is admitted into the PCV line. A plastic bottle is mounted in the engine compartment with a rubber hose providing the connection between the intake manifold and the device.

Inside the plastic bottle is a proprietary fluid, specification No. 1072, consisting of water, alcohols, ketones, aromatic hydrocarbons, and other organic compounds. The applicant claims this formulation will enhance engine performance and increase fuel economy.

The control valve which admits vapor to the intake manifold is mounted on the cap of the bottle. This valve has only two positions - fully open or fully closed. It has an orifice diameter of .022 inches. The system contains a standpipe which provides venting to the atmosphere. The same model is used for applications to all vehicles.

### III. System Function

As the engine vacuum increases, bubbles are formed at the end of the standpipe due to the venting action. The rising vapor bubbles violently agitate the fluid and tend to increase vaporization. This vaporous-fluid mixture enters the engine through the PCV system.

### IV. System Evaluation

St. Clair Sales and Distributors, Inc. has submitted emission results of CVS tests performed by Scott Research Laboratory. The data submitted generally show no adverse effect on emissions with this device when compared with the baseline data. Based on the information presented and operating characteristics of the system, no incompatibility exists with the accredited oxides of nitrogen retrofit devices.

Confirmatory testing was performed by the Air Resources Board Laboratory. The device was tested on a 1973 Plymouth/Satellite (360 CID) and 1974 Pontiac/Ventura (250 CID). Steady state tests were performed on the Pontiac and Plymouth and a hot CVS was also conducted on the Plymouth.

The steady state emission results of the Pontiac were generally lower than the baseline configuration. Steady state tests on the Plymouth also showed no significant change in emissions.

The CVS test on the 1973 Plymouth showed a decrease in carbon monoxide and essentially no change in hydrocarbons and oxides of nitrogen emissions. The results of this test are listed below.

	1973 Federal Cycle Hot Start Mass Emissions (Grams/Miles)		
	<u>HC</u>	<u>CO</u>	<u>NOx</u>
Baseline	0.76	11.13	2.55
Lift-System	0.78	6.21	2.67

These results were typical of the data submitted by the applicant.

V. Conclusion and Recommendation

The staff is of the opinion that the "Lift Fuel Efficiency System" would not have any adverse effect on the existing pollution control system.

St. Clair Sales and Distribution, Inc.

January 22, 1974

Therefore, the staff recommends that the "Lift Fuel Efficiency System" be granted an exemption from the prohibitions of Section 27156 of the Vehicle Code for 1974 and older vehicles.