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State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-32  
Relating to Exemptions under Section 27156  
of the Vehicle Code

BREAKAWAY & ASSOCIATES'  
"SCAT PAC"  
"JET PAK"  
"POWER PAK"

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 the "Scat Pac", "Jet Pak", and "Power Pak" vapor injector systems, manufactured by Breakaway & Associates of Little Rock, Arkansas, 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 and older model-year vehicles.

The vaporous-mixture from this device is admitted to the existing PCV system of the motor vehicle engine.

This device consists of a plastic bottle with the name "Scat Pac", "Power Pak" or "Jet Pak" stamped on the bottle, rubber hose, proprietary fluid and a control valve identified by Part No. CV-028. The three devices are identical with exception of the trade names. This exemption is valid only for devices which have 0.028-inch orifice diameter on the control valve and a fluid identified by fuel specification EPC-3 "Gasoline Catalyst". This number is stamped on the plastic bottle. The fuel storage bottle identification must be in compliance with the California Statute as set forth in Section 28755 of the Health and Safety Code concerning the labeling of hazardous material.

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 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 "SCAT PAC", "JET PAK", OR "POWER PAK" DEVICES.

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.

Sections 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. (a) 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 which, in fact, is not an accredited 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 Sacramento, California, this 10 day of May, 1974.

WILLIAM SIMMONS  
Executive Officer

State of California

AIR RESOURCES BOARD

April 22, 1974

Staff Report

Evaluation of the Breakaway & Associates'  
"Scat Pac", "Power Pak", "Jet Pak" Vapor Injector System  
For Exemption From the Prohibitions of  
Section 27156 of the California Motor Vehicle Code

I. Introduction

Breakaway & Associates of Little Rock, Arkansas has applied for exemption from the prohibitions of Section 27156 of the California Motor Vehicle Code for its "Power Pak", "Jet Pak" or "Scat Pac" devices. According to the applicant, the three devices are identical with the exception of the trade name. Section 27156 prohibits the sale, advertising, or installation of any device which reduces the effectiveness of the required motor vehicle emission control system. The applicant is requesting the exemption be granted for 1974 and older model-year vehicles.

II. System Description

This device consists of a fluid container, a control valve, rubber hose, and a proprietary fluid. A schematic is shown in Figure 1. A rubber hose(3) provides the connection between the plastic fluid container(1) mounted in the engine compartment and the engine. The vapor is admitted to the engine through the PCV system. This unit is identified by the name "Scat Pac", "Power Pak" or "Jet Pak" and EPC-3 "Gasoline Catalyst" stamped on the fluid container.

The proprietary fluid is basically an alcohol - water mixture combined with an oxidizing agent (specification No. EPC-3 "Gasoline Catalyst"). According to the applicant, this formulation would improve fuel economy and engine performance.

The top of the plastic container has two openings, the air inlet port and air outlet port.<sup>(5)</sup> The air inlet port has a valve <sup>(2)</sup> on the cap. This valve has only two position - up for fully open or down for fully closed. Connected to the air inlet port is a long standpipe<sup>(7)</sup> which provides venting from the container's bottom to the atmosphere.

A control valve<sup>(4)</sup> is inserted in the rubber hose connecting the device and the PCV system. The valve has a flow restrictor inserted which can be identified by part no. CV-028 which has a nominal orifice diameter size of 0.028 inch. This valve has only two positions - fully open or fully closed.

A rubber hose is fitted to a plastic cap which is screwed on the outlet port of the plastic container. The other end of the rubber tube is connected to a plastic tee<sup>(6)</sup> which has a control valve inserted in the middle. This tee provides the connection between the device and the PCV line.

### III. System Function

The vapor injector system operates by applying manifold vacuum to a tee in the PCV line, thereby allowing vapor from the plastic container to be displaced through a rubber hose connected to the intake manifold

of the engine. Due to a differential pressure caused by engine operation, air enters the fluid tank through the air inlet port valve connected to a standpipe. This venting action creates bubbles at the end of the standpipe. The bubbles formed and their subsequent rising action enhance the evaporation rate of the fluid. This vaporous mixture enters the engine through the PCV line located at the base of the carburetor.

#### IV. System Evaluation

The following discussion summarizes the results of applicant's emission data, the Air Resources Board's Laboratory bench flow results, and EPA emission results.

##### A. Applicant's Data

Breakaway Associates submitted back to back baseline and device hot CVS I emission data performed by Olson Laboratories of Anaheim, California. A 1969 Pontiac Executive Station Wagon with a 400 CID engine and 2V-carburetor was tested. The applicant's emission test results showed no adverse effect with hydrocarbon and carbon monoxide emissions but resulted in a 14.8% increase in oxides of nitrogen. Additional emission results submitted after accumulating 2000 miles with the device showed no adverse effect when compared with the original baseline (0 mile).

These data are not considered valid for this application because the flow limiting orifice was not incorporated with the device tested.

B. ARB Bench Flow Test

The Air Resources Laboratory conducted bench flow test on the device submitted by the applicant. This device is capable of a maximum flow of 0.106 CFM at 24.0" Hg vacuum.

The staff uses maximum air bleed limits for systems with a fixed orifice size which admits air through the PCV system as a basis of judgment for the leaning effects of this device. The maximum air bleed rate permitted by this device is within the established limits.

C. EPA Emission Test Evaluation

The U.S. Environmental Protection Agency at Ann Arbor, Michigan conducted four cold CVS II tests, two without device and two with device. Testing was conducted with a Scat Pac unit on a 1970 Plymouth Valiant with a 225 CID engine. The results showed no adverse effect on emission.

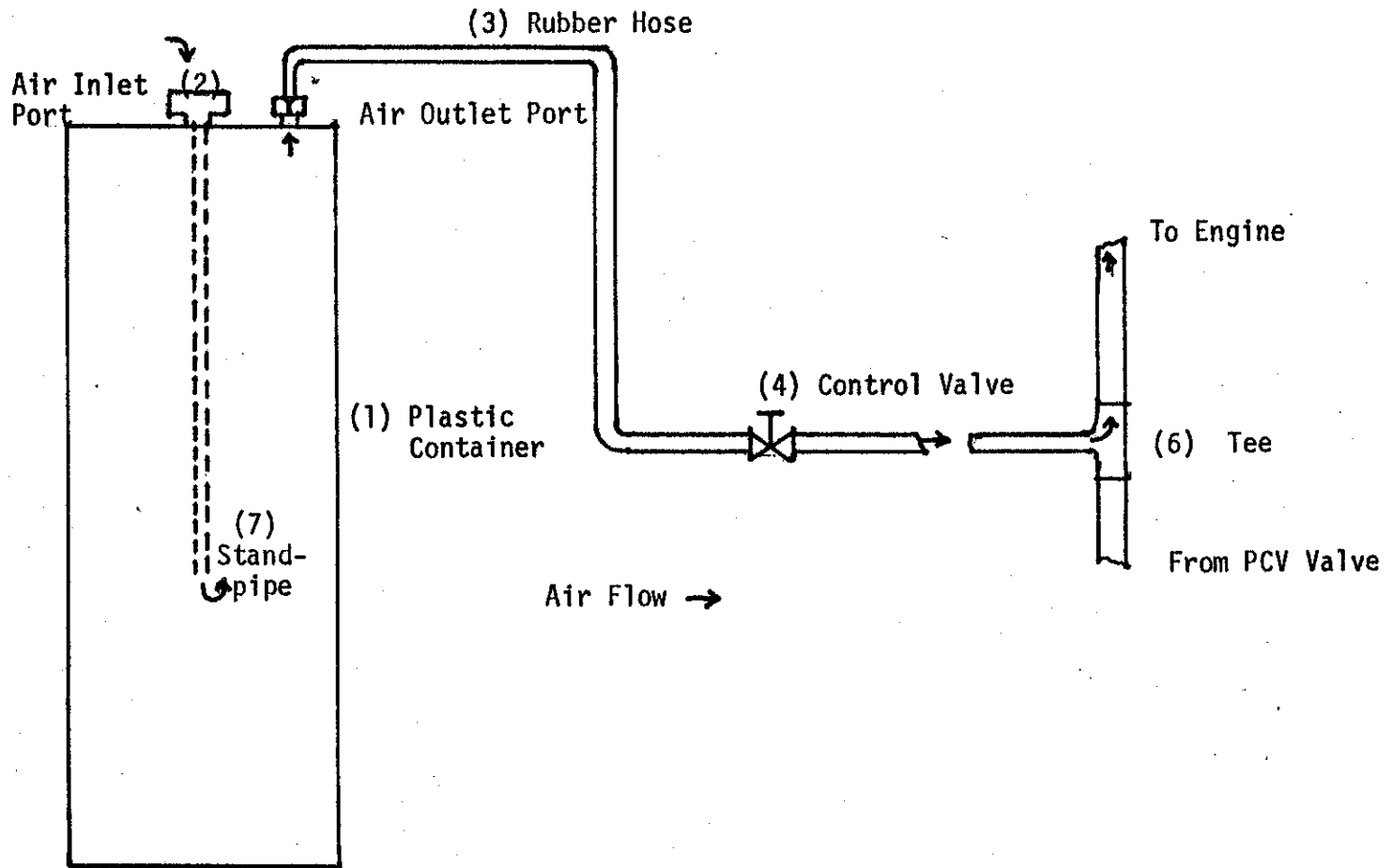
V. Conclusions and Recommendation

The staff is of the opinion that this device would not have an adverse effect on the emission control system.

Therefore, the staff recommends that Breakaway and Associates of Little Rock, Arkansas be granted an exemption for its "Scat Pac", "Jet Pak" and "Power Pak" devices for 1974 and older model-year vehicles.

Figure 1

Schematic of the Scat Pac Vapor Injector System



State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-32-1  
Relating to Exemptions under Section 27156  
of the Vehicle Code

COX AND ASSOCIATES  
"J.C. MILER FUEL SAVER"

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 "J.C. Miler Fuel Saver" manufactured by Cox and Associates 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 1980 and older gasoline powered vehicles.

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 J.C. MILER.

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 9<sup>th</sup> day of June, 1981.

*K. D. Drachand*  
K. D. Drachand, Chief  
Mobile Source Control Division

State of California  
AIR RESOURCES BOARD

May 26, 1981

Staff Report

Evaluation of the Cox and Associates Inc.  
"J. C. Miler Fuel Saver" in Accordance With Section 2222  
Title 13 of the California Administrative Code

I. INTRODUCTION

MTH investment company of Hollywood, California acting as agent for Cox and Associates has applied for exemption from the prohibitions of Section 27156 of the California Vehicle Code for an add-on device known as the "J. C. Miler Fuel Saver". This device has previously been exempted for installation on 1974 and older vehicles under the trade names "Scat Pac", "Jet Pac", and "Power Pac" (CARB E.O. #D-32). Exemption for 1980 and older gasoline powered vehicles under the new trade name was denied because of a defective valve. Reconsideration is now being sought upon the basis of a resubmitted valve.

II. SYSTEM DESCRIPTION

This device consists of a fluid container, a control valve, Tygon and rubber hoses, and a proprietary fluid. A schematic is shown in Figure 1. Rubber and tygon hoses(3) provide the connection between the plastic fluid container(1) mounted in the engine compartment and the engine. The vapor is admitted to the engine through the PCV system. This unit is identified by the name "J. C. Miler" on a label affixed to the fluid container.

The proprietary fluid is basically an alcohol-water mixture combined with an oxidizing agent (specification No. EPC-3 "Gasoline Catalyst"). According to the applicant, this formulation would improve fuel economy and engine performance.

The top of the plastic container has two openings, the air inlet port and air outlet port.<sup>(5)</sup> The air inlet port has a valve<sup>(2)</sup> on the cap. This valve has only two positions--up for fully open, or down for fully closed. Connected to the air inlet port is a long standpipe<sup>(7)</sup> which provides venting from the container's bottom to the atmosphere.

A plastic control valve<sup>(4)</sup> is inserted in the hose connecting the device and the PCV system. The valve has a molded-in flow restrictor with an orifice of 0.024 inch in diameter. This valve has only two positions--fully open or fully closed.

A tygon hose from the control valve is fitted to a molded nipple which is the outlet port of the plastic container. The rubber tube from the other end of the valve is connected to a plastic tee<sup>(6)</sup>. This tee provides the connection between the device and the PCV line.

### III. SYSTEM FUNCTION

Due to a differential pressure caused by engine operation, air enters the fluid tank through the air inlet port valve connected to a standpipe. This venting action creates bubbles at the end of the

standpipe. The bubbles formed and their subsequent rising action enhance the evaporation rate of the fluid. This vaporous mixture enters the engine through the PCV line located at the base of the carburetor.

#### IV. SYSTEM EVALUATION

##### A. APPLICANTS DATA

The applicant submitted CVS-75 exhaust emission data from a 1980 Pontiac. These data have been disregarded because the test vehicle was later found to be unstable.

##### B. ENGINEERING EVALUATION

The valve/orifice assembly is a molded plastic unit. The material appears to be polyethylene.

This valve appears to be of good quality workmanship and materials and not prone to premature failures.

The flow restrictor orifice is larger than the ARB's established criteria for air bleed devices.

#### V. DISCUSSION

This device has previously been exempted (E.O. #D-32 dated May 10, 1974). The description of the device, then known as the "Scat Pac", is consistent with the example submitted as the "J.C. Miller".

A valve submitted for evaluation in September 1980 failed during inspection. This failure was the primary cause for rejection of that application for update. The applicant has submitted a letter from the fabricator stating that a new employee used the wrong material in the batch from which this valve was taken. The newly submitted valves appear to be sound.

The 'Scat Pac' file contains air flow data performed in 1974 by the Haagen-Smit laboratory on an equivalent orifice. Those data demonstrate that our air flow criteria were met by the "Scat Pac". Further inspection leads the staff to consider this to be a short capillary rather than an orifice.

The resubmitted valves and the explanation of the cause of failure along with the 1974 evaluation of the "Stat Pac" have satisfied the staff's reservations concerning the durability of the J.C. Miler.

#### VI. CONCLUSIONS AND RECOMMENDATIONS

The staff is of the opinion that as this device has previously been found to meet our criteria, and as the latest cause for rejection has been corrected, the "J. C. Miler Fuel Saver" will not adversely affect emissions from vehicles. Therefore, the staff recommends that the "J. C. Miler" be granted an exemption from V. C. Section 27156.

Figure 1

Schematic of the J C Miller Vapor Injector System

