

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-9-1  
Relating to Exemptions under Section 27156  
of the Vehicle Code

BALL-MATIC CORPORATION  
"BALL-MATIC AIR INJECTOR"

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 "Ball-Matic Air Injector" device manufactured and marketed by Ball-Matic Corporation of 874 North Main Street, Orange, California 92668 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 1974 and older model-year vehicles.

This device consists of an air modulating valve with a filter and is inserted between the PCV valve and the intake manifold. The valve permits a small amount of additional air to enter the PCV line. This device can be identified by the name "Ball-Matic Air Injector" 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 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 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 "BALL-MATIC AIR INJECTOR" 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.

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.

Executive Order D-9, dated May 15, 1973, is superceded and of no further force and effect.

Executed at Sacramento, California, this 3rd day of <sup>Sept.</sup>~~August~~, 1974.

WILLIAM SIMMONS  
Executive Officer

State of California

AIR RESOURCES BOARD

August 16, 1974

Staff Report

Evaluation of the Ball-Matic Corporation  
"Ball-Matic Air Injector" device for Compliance  
with the Requirements of Section 27156 of the  
California Vehicle Code

I. Introduction

The Ball-Matic Corporation of 874 North Main Street, Orange, California 92668 has submitted an application requesting an exemption from the prohibitions of Section 27156 of the California Vehicle Code for the "Ball-Matic Air Injector." 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 applicant intends to sell the "Ball-Matic" device for insertion into the "PCV" line of 1974 and older model-year vehicles.

The Air Resources Board (ARB) staff had evaluated this device previously and found the device had no adverse effects on the emission control system. Executive Order D-9 was issued to Ball-Matic Corporation for its "Ball-Matic Air Injector" for 1970 and older model-year vehicles.

II. System Description and Function

This "Ball-Matic" device consists of a filter, plastic ball, spring, and a metal housing with ports used to insert the device between the PCV valve and carburetor. The name "Ball-Matic Air Injector" is permanently stamped on the bottom of the device housing. According to the applicant, this device is designed to improve fuel economy and engine performance.

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The device has a modulating poppet which meters the quantity of air bleed into the engine. Engine manifold vacuum determines the degree of poppet opening. Maximum air flow occurs at low vacuum (high speed and wide open throttle) and minimum flow occurs at high vacuum (idle and deceleration). When the engine is not operating, the poppet is in the open position.

### III. System Evaluation

#### A. Applicant's Data

The applicant submitted baseline and device Cold CVS I emission data performed by Olson Laboratories of Anaheim, California. This test was conducted on a 1972 Ford Torino. The results generally showed no adverse effect on the emission control system on the vehicle tested.

#### B. ARB Bench Flow Tests

The ARB staff has established a maximum air bleed limit as a basis of judgment for the leaning effects of the device. These established limits have been determined as not having an adverse effect on the emission control system.

The Air Resources Board Laboratory conducted a bench flow test on this device. The maximum air flow rate measured was 1.30 SCFM at 0.6 inches of Hg vacuum. When the vacuum is greater than 0.8 inches

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of Hg the flow rate decreases to .02 SCFM. (Reference Figure 1). The flow rate is within the limits established by the staff for the normal range in intake manifold vacuum. Although the limits are exceeded in instances of low engine vacuum, the percentage of time which the vehicle operates in this vacuum range is minimal.

IV. Conclusions and Recommendations

The staff is of the opinion that the installation of this device would not affect the performance of the emission control system. Therefore, the staff recommends that Ball-Matic Corporation be granted an exemption from the provisions of Section 27156 of the Vehicle Code.

FIGURE 1

Bench Flow Curve of "Ball-Matic Air Injector"  
Air Bleed Valve

