

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-215-28
Relating to Exemptions Under Section 27156
of the Vehicle Code

EDELBROCK CORPORATION
PERFORMER MULTI-POINT ELECTRONIC FUEL INJECTION CONVERSION KIT

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 39515 and Section 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the installation of the Performer Multi-Point Electronic Fuel Injection Conversion Kit, manufactured and marketed by the Edelbrock Corporation, 2700 California St., Torrance, California 90509-2936 has been found not to reduce the effectiveness of the applicable vehicle pollution control system and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for 1987-95 vehicles originally equipped with a General Motors 5.7 or 7.4 liter throttle body injected engine, excluding the two following 1995 model-year engine families: S3G5.785GBEB & S3G5.7J5G1EA.

| <u>Part No.</u> | <u>Model-Year</u> | <u>Engine Displacement</u> |
|-----------------|-------------------|----------------------------|
| 3501 | 1992-95 | 5.7L |
| 3502 | 1987-92 | 5.7L |
| 3562 | 1987-91 | 7.4L |
| 3563 | 1992-95 | 7.4L |

The Performer Multi-Point Electronic Fuel Injection Conversion Kit includes the following main components: Intake manifold, EPROM, fuel rails, fuel regulator, fuel pump, 8 Magnetti Marelli Pico injectors, and all the necessary hardware and electrical components for proper installation.

This Executive Order is valid provided that the installation instructions for the fuel injection kit will not recommend tuning the vehicle to specifications different from those of the vehicle manufacturer.

Changes made to the design or operating conditions of the fuel injection kit, as exempt by the Air Resources Board, which adversely affect the performance of the vehicle's pollution control system shall invalidate this Executive Order.

Marketing of the fuel injection kit using any identification other than that shown in this Executive Order or marketing of the fuel injection kit 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 the fuel injection kit shall not be construed as exemption to sell, offer for sale, or advertise any component of the kit as an individual device.

This Executive Order does not constitute any opinion as to the effect the use of the fuel injection kit 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 EDELBROCK CORPORATION'S FUEL INJECTION KIT.

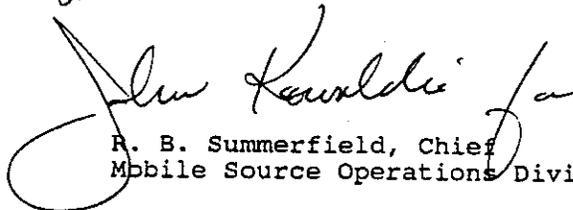
No claim of any kind, such as "Approved by the Air Resources Board", may be made with respect to the action taken herein in any advertising or other oral or written communication.

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Violation of any of the above conditions shall be grounds for revocation of this order. The order may be revoked only after a ten-day written notice of intention to revoke the order, in which period the holder of the order may request in writing a hearing to contest the proposed revocation. If a hearing is requested, it shall be held within ten days of receipt of the request and the order may not be revoked until a determination after hearing that grounds for revocation exist.

Executed at El Monte, California, this 24th day of June 1997.



R. B. Summerfield, Chief
Mobile Source Operations Division

State of California
AIR RESOURCES BOARD

EVALUATION OF THE EDELBROCK CORPORATION'S FUEL INJECTION KIT
FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE
SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE
CALIFORNIA CODE OF REGULATIONS

June 1997

State of California
AIR RESOURCES BOARD

EVALUATION OF THE EDELBROCK CORPORATION'S FUEL INJECTION KIT
FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE
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CALIFORNIA CODE OF REGULATIONS

by

Mobile Source Operations Division
9528 Telstar Avenue
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

The Edelbrock Corporation of 2700 California Street, Torrance, California 90509-2936 has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their fuel injection kit designed for 1987-95 vehicles originally equipped with a General Motors 5.7 or 7.4 liter throttle body injected engine, excluding the two following 1995 model-year engine families: S3G5.785GBEB & S3G5.7J5G1EA.

Based on submitted emissions test data, the staff concludes that the fuel injection kit will not adversely affect exhaust emissions from vehicles for which the exemption is requested.

The staff recommends that the Edelbrock Corporation be granted an exemption as requested and that Executive Order D-215-28 be issued.

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I. INTRODUCTION

The Edelbrock Corporation of 2700 California Street, Torrance, California 90509-2936 has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their fuel injection kit designed for 1987-95 vehicles originally equipped with a General Motors 5.7 or 7.4 liter throttle body injected engine, excluding the two following 1995 model-year engine families: S3G5.785GBEB & S3G5.7J5G1EA.

II. CONCLUSIONS

Based on submitted emissions test data, the staff concludes that the Edelbrock Corporation's Performer Multi-Point Electronic Fuel Injection Conversion Kit will not adversely affect exhaust emissions from the vehicles for which the exemption is requested.

III. RECOMMENDATION

The staff recommends that the Edelbrock Corporation be granted an exemption for their Performer Multi-Point Electronic Fuel Injection Conversion Kit for installation on those applicable vehicles with General Motors engines. The staff also recommends that Executive Order D-215-28 be issued.

IV. FUEL INJECTION KIT DESCRIPTION

The Performer Multi-Point Electronic Fuel Injection Conversion Kit is designed for installation on 1987-95 vehicles originally equipped with a General Motors 5.7 or 7.4 liter throttle body injected engine, excluding the two following 1995 model-year engine families: S3G5.785GBEB & S3G5.7J5G1EA. Table 1 lists applicability.

Table 1

| <u>Part No.</u> | <u>Model-Year</u> | <u>Engine Displacement</u> |
|-----------------|-------------------|----------------------------|
| 3501 | 1992-95 | 5.7L |
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The purpose of converting an engine from throttle body injection to multi-point injection is to increase the engine's performance and power output. The Performer Multi-Point Electronic Fuel Injection Conversion Kit includes the following main components: Intake manifold, EPROM, fuel rails, fuel regulator, fuel pump, 8 Magnetti Marelli Pico injectors, and all the

necessary hardware and electrical components for proper installation. The new components are designed to transform the vehicle's throttle body fuel injection system to a more sophisticated multi-point fuel injected system without any major modifications to the vehicle's electronic control unit (ECU) or wiring harness.

The installation of the Performer Multi-Point Electronic Fuel Injection Conversion Kit modifies the existing throttle body to operate as an air valve. The ECU is modified with a new EPROM, and an additional fuel pump is installed by the stock fuel filter. The stock intake manifold is removed and replaced with the intake manifold provided by Edelbrock. The installation of Edelbrock's fuel injection kit does not require the removal of any emission related components or sensors.

V. DISCUSSION OF THE FUEL INJECTION KIT

A 1994 Chevrolet C1500 truck with a 5.7L engine was used for the evaluation of the fuel injection kit. Testing consisted of one Cold Start CVS-75 Federal Test Procedure in the modified configuration. The dynamometer inertia weight and horsepower settings were 5250-lbs and 14.8 hp, respectively. The emissions testing was conducted by the Edelbrock Corporation, data was evaluated against the vehicle's emission standards with deterioration factors (Dfs) applied. Confirmatory testing was performed at the Air Resources Board's (ARB's) Haagen-Smit Laboratory. Table 2. list those results.

Table 2.

| | NMHC | CO | NOx |
|------------------------------|------|-----|------|
| Device w/ Dfs at Edelbrock | 0.34 | 5.2 | 0.75 |
| Device w/ Dfs at Haagen-Smit | 0.39 | 6.1 | 0.61 |
| Standards | 0.50 | 9.0 | 1.0 |

Emission test results submitted by Edelbrock and confirmed by the ARB were below the vehicle's applicable emission standards with deterioration factors applied. Therefore, based on the test results, the staff concludes that the installation of the fuel injection kit will not have an adverse effect on exhaust emissions on those applicable vehicles when operated similar to the CVS-75 Federal Test Procedure.

The Edelbrock Corporation has submitted all the required information and fulfilled the requirements for an exemption.