

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-541

Relating to Exemptions Under Section 27156  
of the Vehicle Code

Edge Products  
Power Edge EZ

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-02-003;

IT IS ORDERED AND RESOLVED: That the installation of the Power Edge EZ manufactured and marketed by Edge Products, 5150 Washington, Ogden, Utah 84405 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 1998 through 1999 Dodge Ram 2500 and 3500 trucks equipped with the Cummins 5.9L engine. Excluded from this Executive Order are vehicles equipped with 1999 model-year Cummins engine families, XCEXH0359BAI, XCEXH0359BAJ, and XCEXH0359BAK, which have been certified to the EURO III and Not to Exceed emission standards under the Settlement Agreement.

The Power Edge EZ device consists of an electronic module which enhances fuel flow at medium and high load engine conditions, and a brass elbow which is designed to delay the wastegate opening during boost conditions. The electronic module is plugged into the CAN-BUS data port and the MAP sensor's wiring harness, which are both located in the vehicle's engine compartment. The Power Edge EZ comes with three user adjustment jumpers that vary the settings from slightly modified to very responsive.

This Executive Order is valid provided that the installation instructions for the Power Edge EZ 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 Power Edge EZ, 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 Power Edge EZ using any identification other than that shown in this Executive Order or marketing of the Power Edge EZ 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 Power Edge EZ 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 Power Edge EZ may have on any warranty either expressed or implied by the vehicle manufacturer.

This Executive Order is granted based on submitted emissions test data using the Power Edge EZ, Version 3, which showed that at the most responsive setting, the device did not adversely affect tailpipe emissions during a Cold-Start 505 Federal Test Procedure. A 1999 model-year Dodge Ram 2500 was used as the test vehicle.

|            | HC    | CO   | NOx  | PM    | Opacity |
|------------|-------|------|------|-------|---------|
| Stock      | 0.35  | 1.7  | 8.9  | 0.108 | 7.9%    |
| Device     | 0.17  | 1.4  | 9.0  | 0.111 | 10.8%   |
| Difference | -0.18 | -0.3 | 0.1  | 0.003 |         |
| % Change   | - 50% | -15% | 1.3% | 2.8%  |         |

This Executive Order is also based on an On-Board Diagnostic II (OBD II) testing conducted on the same vehicle. Test data showed that the Power Edge EZ when installed on the vehicle did not affect the vehicle's ability to perform its OBD II monitoring.

The ARB finds that reasonable grounds exist to believe that use of the Power Edge EZ may adversely affect emissions of motor vehicles when operating under conditions outside the parameters of the Cold-Start 505 Federal Test Procedure. Accordingly, the ARB reserves the right to conduct additional emission tests, in the future, as such tests are developed, that will more adequately measure emissions from all cycle phases. If such test results demonstrate that the Power Edge EZ adversely affect emissions during off-cycle conditions (defined as those conditions which are beyond the parameters of the Cold Start 505 Federal Test Procedure), this Executive Order shall be effectively rescinded as of the date the test results are validated. Further, if such test results or other evidence provides the ARB with reason to suspect that the Power Edge EZ will affect the durability of the emission control system, Edge Products shall be required to submit durability data to show that the durability of the vehicle emission control system is not, in fact, affected and/or that the add-on or modified part demonstrates adequate durability.

In addition to the foregoing, the ARB reserves the right in the future to review this Executive Order and the exemption provided herein to assure that the exempted add-on or modified part continues to meet the standards and procedures of Title 13, California Code of Regulations, Section 2222, et seq.

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 EDGE PRODUCTS' POWER EDGE EZ.

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.

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 is made after the hearing that grounds for revocation exist.

Executed at El Monte, California, this 29<sup>TH</sup> day of July 2002.

  
Allen Lyons, Chief  
Mobile Source Operations Division

## EVALUATION SUMMARY

Manufacturer Name: Edge Products

Name of Device: Power Edge EZ

Background:

Edge Products, 5150 Washington, Ogden, Utah 84405, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for the Power Edge EZ designed for 1998 through 1999 Dodge Ram 2500 and 3500 trucks equipped with the Cummins 5.9L engine. Excluded from the application are vehicles equipped with 1999 model-year Cummins engine families, XCEXH0359BAI, XCEXH0359BAJ, and XCEXH0359BAK, which have been certified to the EURO III and Not to Exceed emission standards under the Settlement Agreement.

Recommendation:

Grant exemption to Edge Products as requested and issue Executive Order D-541.

Device Description:

The Power Edge EZ device consists of an electronic module which enhances fuel flow at medium and high load engine conditions, and a brass elbow which is designed to delay the wastegate opening during boost conditions. The electronic module is plugged into the CAN-BUS data port and the MAP sensor's wiring harness. The engine's MAP sensor values, engine RPMs, and fuel delivery information are monitored and modified by the Power Edge EZ's electronic module. The Power Edge EZ comes with three user adjustment jumpers that vary the settings from slightly modified to very responsive. The manufacturer claims that at the very responsive settings, the injector pulse is increased by 0.5 ms, advance fuel timing by 5 degrees, and boost is increased from 18-22 psi. to 24-28 psi.

Discussion/Basis for the Recommendation:

Edge Products submitted emissions test data using the Power Edge EZ, Version 3 (the most responsive setting) following a Cold-Start 505 Federal Test Procedure. A 1999 model-year Dodge Ram 2500 was used as the test vehicle.

|            | HC    | CO   | NOx  | PM    | Opacity |
|------------|-------|------|------|-------|---------|
| Stock      | 0.35  | 1.7  | 8.9  | 0.108 | 7.9%    |
| Device     | 0.17  | 1.4  | 9.0  | 0.111 | 10.8%   |
| Difference | -0.18 | -0.3 | 0.1  | 0.003 |         |
| % Change   | - 50% | -15% | 1.3% | 2.8%  |         |

The above test results showed that the exhaust emissions did not exceed the baseline emissions by more than the allowed limits of 10 percent or 0.1 grams per mile on hydrocarbon (HC) and oxides of nitrogen (NOx), 15 percent or 1.0 grams per mile carbon monoxide (CO), and 15 percent or 0.03 grams per mile on Particulate Matter (PM) as specified in the "Procedures for Exemption of Add-On and Modified Parts." On-Board Diagnostic II (OBD II) testing was conducted on the same vehicle. Test data showed that the Power Edge EZ when installed on the vehicle did not affect the vehicle's ability to perform its OBD II monitoring.

Based on the submitted emissions and OBD II test data, the staff concludes that Edge Products' Power Edge EZ meets the requirements for a VC 27156 exemption.