

**State of California
AIR RESOURCES BOARD**

EXECUTIVE ORDER DE-04-002

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code, Div. 26, Part 5, Chap. 2; and pursuant to the authority vested in the undersigned by Health and Safety Code section 39515 and 39616 and Executive Order G-02-003;

Relating to Exemptions under Section 27156 of the Vehicle Code, and Verification under Sections 2700 through 2710 of Title 13 of the California Code of Regulations

Lubrizol Engine Control Systems
Purifilter™ with High Load of Platinum

The California Air Resources Board (ARB) has reviewed Lubrizol Engine Control System's request for verification of the "high load Purifilter™". Based on an evaluation of the data provided, and pursuant to the terms and conditions specified below, the Executive Officer of the ARB hereby finds that the high load Purifilter™ reduces emissions of diesel particulate matter (PM) consistent with a Level 3 device (greater than or equal to 85 percent reductions) (Title 13 California Code of Regulations ("CCR") sections 2702 (f) and (g) and section 2708). The Executive Officer further finds Lubrizol Engine Control Systems was unable to demonstrate the high load Purifilter™ system compliance with the 20 percent NO₂ limit which takes effect January 1, 2004 (Title 13 CCR section 2706(a)). Therefore, the Executive Officer finds that the system will be in noncompliance with that limit. Accordingly, the Executive Officer determines that the system merits verification and, subject to the terms and conditions specified below, classifies the high load Purifilter™ as a Level 3 system, for the applications listed in Table 1 and engine families listed in Appendix A.

Table 1: Appropriate Applications for the High Load Purifilter™

Filter Type	Application
High Load Purifilter™	Urban Bus
	School Bus
	Refuse Hauler
	Fuel Tanker Truck
	Truck

The aforementioned verification is subject to the following terms and conditions:

- The engines are originally manufactured from model year 1994 through 2003 having the engine family numbers listed in Appendix A.
- The engines do not employ exhaust gas recirculation (EGR).
- The application must have a duty cycle with a temperature profile greater than 280 degrees Celsius for at least 25 percent of the time.

- The engine may or may not have a pre-existing OEM oxidation catalyst.
 - The engine must not have a pre-existing diesel particulate filter.
 - The engine must be certified in California for on-road applications.
 - The engine must be certified at a PM emission level of at most 0.1 grams per brake horsepower-hour (g/bhp-hr), and greater than 0.01 g/bhp-hr.
 - The engine must be four-stroke.
 - The engine can be turbocharged or naturally aspirated.
 - The engine can be mechanically or electronically injected
The engine should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer.
 - Lube oil, or other oil, should not be mixed with the fuel.
 - The engine must be operated on fuel that has a sulfur content of no more than 15 parts per million by weight.
- The other terms and conditions specified below.

IT IS ALSO ORDERED AND RESOLVED: That installation of the high load Purifilter™ system, manufactured by Lubrizol Engine Control Systems of 165 Pony Drive, Newmarket, Ontario, Canada L3Y 7V1, has been found not to reduce the effectiveness of the applicable vehicle pollution control system, and therefore, the high load Purifilter™ is exempt from the prohibitions in Section 27156 of the Vehicle Code for installation on heavy-duty on-road vehicles listed in Appendix A.

This exemption is only valid provided the engines meet the aforementioned conditions.

The high load Purifilter™ consists of a catalyzed passive diesel particulate filter and a backpressure monitor. The major components of the high load Purifilter™ system are identified in Appendix B.

This Executive order is valid provided that installation instructions for the high load Purifilter™ system do not recommend tuning the vehicle to specifications different from those of the vehicle manufacturer.

Changes made to the design or operating conditions of the high load Purifilter™, as exempted by the ARB, which adversely affect the performance of the vehicle's pollution control system, shall invalidate this Executive Order.

No changes are permitted to the device. The ARB must be notified in writing of any changes to any part of the high load Purifilter™. Any changes to the device must be evaluated and approved by the ARB. Failure to do so shall invalidate this Executive Order.

Marketing of the high load Purifilter™ using identification other than that shown in this Executive Order or for an application other than that listed in this Executive Order shall be prohibited unless prior approval is obtained from the ARB.

This Executive Order shall not apply to any high load Purifilter™ advertised, offered for sale, sold with, or installed on a motor vehicle prior to or concurrent with transfer to an ultimate purchaser.

As specified in the Diesel Emission Control Strategy Verification Procedure (Title 13 CCR section 2706 (i)), the ARB assigns each Diesel Emission Control Strategy a family name. The designated family name for the verification as outlined above is: CA/LUB/2003/PM3/N00/ON/DPF02 to fulfill the system-labeling requirement.

Additionally, as stated in the Diesel Emission Control Strategy Verification Procedure, Lubrizol Engine Control Systems is responsible for honoring their warranty (Section 2707) and conducting in-use compliance testing (Section 2709).

In addition to the foregoing, the ARB reserves the right in the future to review this Executive Order and the exemption and verification provided herein to assure that the exempted and verified add-on or modified part continues to meet the standards and procedures of California Code of Regulations, Title 13, Section 2222, et seq and California Code of Regulations, Title 13, Sections 2700 through 2710.

Vehicles certified under this Executive Order shall conform to all applicable California emissions regulations.

Violation of any of the above conditions shall be grounds for revocation of this Executive Order.



Robert H. Cross, Chief
Mobile Source Control Division

SUPERSEDED

Appendix A: ARB Approved Model Year 1994 to 2003 Engine Families for the High Load Purifilter™

Appendix B: Part Numbers and Model Numbers of the High Load Purifilter™ and Standard Part Numbers of the Backpressure Monitor