

**State of California
AIR RESOURCES BOARD**

EXECUTIVE ORDER DE-08-004

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

Caterpillar Incorporated
Caterpillar[®] Diesel Particulate Filter

The California Air Resources Board (ARB) has reviewed Caterpillar Incorporated's request for verification of the Caterpillar[®] Diesel Particulate Filter. 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 Caterpillar[®] Diesel Particulate Filter reduces emissions of diesel particulate matter (PM) consistent with a Level 3 Plus device (greater than or equal to 85 percent reductions) (Title 13 California Code of Regulations ("CCR") sections 2702 (f) and (g) and section 2708). Accordingly, the Executive Officer determines that the system merits verification and, subject to the terms and conditions specified below, classifies the Caterpillar[®] Diesel Particulate Filter as a Level 3 Plus system for heavy-duty off-road vehicles using engines from the engine families listed in Attachment 1.

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

- Only one filter is installed per engine. For engines that are original engine manufacturer dual exhaust systems, including two exhaust manifolds, two turbochargers, etcetera, one filter may be installed per exhaust manifold.
- The engine is originally manufactured from model year 1996 through 2008 having an engine family name listed in Attachment 1.
- The engine does not employ exhaust gas recirculation.
- The application must have a duty cycle with an exhaust temperature profile greater than 240 degrees Celsius for at least 40 percent of the time.
- The engine may or may not have a pre-existing oxidation catalyst from the original equipment manufacturer.
- The engine must not have a pre-existing diesel particulate filter from the original equipment manufacturer.
- The engine must be certified for off-road applications.
- The engine must be certified at a PM emission level of at most 0.2 g/bhp-hr, and greater than 0.01 g/bhp-hr.

- The engine must be four-stroke.
- The engine must have a maximum power output rating of at least 175 horsepower and at most 600 horsepower.
- The engine must be in its original certified configuration.
- The engine can be turbocharged or naturally aspirated.
- The engine can be mechanically or electronically injected.
- The engine must 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 product must not be operated with fuel additives, as defined in Section 2701 of Title 13, of the CCR, unless explicitly verified for use with fuel additive(s).
- The product must not be used with any other systems or engine modifications without ARB and manufacturer approval.
- The other terms and conditions specified below.

IT IS ALSO ORDERED AND RESOLVED: That installation of the Caterpillar® Diesel Particulate Filter, manufactured by Caterpillar Incorporated of 100 North Adams Street, Peoria, Illinois has been found not to reduce the effectiveness of the applicable vehicle pollution control system, and therefore, the Caterpillar® Diesel Particulate Filter is exempt from the prohibitions in Section 27156 of the Vehicle Code for installation on heavy-duty off-road vehicles using engines listed in Attachment 1.

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

The Caterpillar® Diesel Particulate Filter consists of a catalyzed diesel oxidation catalyst, non-catalyzed wall-flow particulate filter, and a backpressure monitor. The major components of the Caterpillar® Diesel Particulate Filter are identified in Attachment 2. Schematics of the approved labels are shown in Attachment 3.

This Executive order is valid provided that installation instructions for the Caterpillar® Diesel Particulate Filter 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 Caterpillar® Diesel Particulate Filter, 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 Caterpillar® Diesel Particulate Filter. 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 Caterpillar® Diesel Particulate Filter 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 Caterpillar® Diesel Particulate Filter 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 (g)), the ARB assigns each Diesel Emission Control Strategy a family name. The designated family name for the verification as outlined above is:

CA/CAT/2008/PM3+/N00/OFF/DPF01

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

This Executive Order is valid provided that the diesel fuel used in conjunction with the device complies with Title 13, CCR, sections 2281 and 2282, and if biodiesel is used, the biodiesel blend shall be 20 percent or less subject to the following conditions:

- The biodiesel portion of the blend complies with the American Society for Testing and Materials specification D6751 applicable for 15 parts per million sulfur content;
- The diesel fuel portion of the blend complies with Title 13, CCR, sections 2281 and 2282; and
- The use of biodiesel applies to devices verified to reduce only diesel PM.

Other alternative diesel fuels such as, but not limited to, ethanol diesel blends and water emulsified diesel fuel are excluded from this Executive Order.

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 CCR, Title 13, Section 2222, et seq and CCR, Title 13, Sections 2700 through 2710.

Systems verified under this Executive Order shall conform to all applicable California emissions regulations.

This Executive Order does not release Caterpillar Incorporated from complying with all other applicable regulations.

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

Executed at El Monte, California, this 23rd day of October 2008.

/s/

Robert H. Cross, Chief
Mobile Source Control Division

- Attachment 1: ARB Approved California Engine Families for the Caterpillar[®] Diesel Particulate Filter
- Attachment 2: Parts List for the Caterpillar[®] Diesel Particulate Filter
- Attachment 3: Labels for the Caterpillar[®] Diesel Particulate Filter