

**State of California  
AIR RESOURCES BOARD**

**EXECUTIVE ORDER DE-06-005**

Pursuant to the authority vested in the Air Resources Board (ARB) by Health and Safety Code, Division 26, Part 5, Chapter 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

Donaldson Company, Inc.

DPM Low Temperature Filter (LTF) with Spiracle Closed Crankcase Filtration System

ARB has reviewed Donaldson's request for verification of the DPM LTF with the Spiracle system. Based on an evaluation of the data provided, and pursuant to the terms and conditions specified below, the Executive Officer of ARB hereby finds that the DPM LTF with the Spiracle system 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). Accordingly, the Executive Officer determines that the system merits verification and, subject to the terms and conditions specified below, classifies the DPM LTF with the Spiracle system as a Level 3 system, for the on-road applications using engines belonging to the engine families listed in Attachment 1.

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

- The engines are originally manufactured from model year 1994 through 2006 having the engine family numbers listed in Attachment 1.
- The engines do not employ exhaust gas recirculation (EGR).
- The engines are not used in a hybrid (e.g., diesel/electric) configuration.
- The application must have a duty cycle with an average temperature profile greater than 200 degrees Celsius for 40 percent of the operating cycle.
- The engine may or may not have a pre-existing original equipment manufacturer 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).
- The engine must be four-stroke.
- The engine must be turbocharged.
- 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 diesel fuel with a sulfur content of no more than 15 parts per million by weight.
- 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 DPM LTF with the Spiracle system, manufactured by Donaldson Company, Inc. of Post Office Box 1299, Minneapolis, Minnesota 55440-1299, has been found not to reduce the effectiveness of the applicable vehicle pollution control system, and therefore, the DPM LTF with the Spiracle system is exempt from the prohibitions in Section 27156 of the Vehicle Code for installation on heavy-duty on-road vehicles using engines listed in Attachment 1.

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

The DPM LTF basic design is a flow-through filter followed by a diesel particulate filter and a backpressure monitor. The Spiracle system is a filtration system that routes engine crankcase gases to the engine intake. The major components of the DPM LTF with the Spiracle system are identified in Attachment 2.

This Executive Order is valid provided that installation instructions for the DPM LTF with the Spiracle 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 DPM LTF with the Spiracle system, as exempted by 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 DPM LTF with the Spiracle system. Any changes to the device must be evaluated and approved by ARB. Failure to do so shall invalidate this Executive Order.

As of January 1, 2007, verifications of systems that increase emissions of nitrogen dioxide (NO<sub>2</sub>) by more than 30 percent of the baseline oxides of nitrogen (NO<sub>x</sub>) emissions will be revoked.

As of January 1, 2009, verifications of systems that increase emissions of NO<sub>2</sub> by more than 20 percent of the baseline NO<sub>x</sub> emissions will be revoked.

Marketing of the DPM LTF with the Spiracle system 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 ARB.

This Executive Order shall not apply to any DPM LTF with the Spiracle system 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/DON/2006/PM3/N00/ON/SYS01**.

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

In addition to the foregoing, 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 Donaldson 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 12<sup>th</sup> day of September 2006.

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Robert H. Cross, Chief  
Mobile Source Control Division

Attachment 1: ARB Approved Engine Families for the DPM LTF with the Spiracle system

Attachment 2: Parts List for the DPM LTF with the Spiracle system