

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-420-16

Relating to Exemptions under  
Section 27156 of the Vehicle Code

Engine Control Systems  
Purifilter EGR Diesel Particulate Filter

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 Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That installation of the Purifilter EGR diesel particulate filter, manufactured by Engine Control Systems of 83 Commerce Valley Drive East, Markham, Ontario, Canada, L3T 7T3, has been found not to reduce the effectiveness of the applicable engine emission control system, and therefore, the Purifilter EGR diesel particulate filter is exempt from the prohibitions in Section 27156 of the Vehicle Code for installation on on-road heavy-duty vehicles equipped with 2002 through 2008 model-year diesel engines with displacements up to 16.1 liters and horsepower ratings from 100 to 630. This Executive Order excludes all engines originally equipped with an aftertreatment emission control system such as a diesel oxidation catalyst or a diesel particulate filter. A complete list of engine families is provided in Attachment A.

The Purifilter EGR diesel particulate filter consists of a metallic diesel oxidation catalyst, a catalyzed silicon carbide filter, a pressure sensor, exhaust temperature sensor, and an electronic monitor. Major components of the Purifilter EGR diesel particulate filter are identified in Attachment B.

This Executive Order is only valid provided the engines meet the following operating conditions: (1) the engine exhaust temperature is above 240 degrees Celsius for at least 40 percent of the typical duty cycle, (2) the engine is operated using ultra low sulfur diesel with a maximum sulfur content of 15 parts per million by weight or biodiesel blends containing no more than 20 percent biodiesel by volume and (3) the vehicle must have a manufacturer's Gross Vehicle Weight Rating of greater than 14,000 lbs.

This Executive Order is based on emission testing Engine Control Systems conducted with the Purifilter EGR diesel particulate filter.

This Executive Order is valid provided that installation instructions for the Purifilter EGR diesel particulate filter do not recommend tuning the engines to specifications different from those of the engine manufacturer.

Changes made to the design or operating conditions of the Purifilter EGR diesel particulate filter, as exempted by the Air Resources Board, which adversely affect the performance of the engine's pollution control system, shall invalidate this Executive Order.

Marketing of the Purifilter EGR 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 Air Resources Board.

This Executive Order shall not apply to any Purifilter EGR diesel particulate filter advertised, offered for sale, sold with, or installed on a motor vehicle or an engine prior to or concurrent with transfer to an ultimate purchaser.

This Executive Order does not constitute any opinion as to the effect the use of the Purifilter EGR diesel particulate filter may have on any warranty either expressed or implied by the engine manufacturer.

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.

In addition to the foregoing, the Air Resources Board 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 California Code of Regulations, Title 13, 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 ENGINE CONTROL SYSTEMS' PURIFILTER EGR DIESEL PARTICULATE FILTER.

Violation of any of the above conditions shall be grounds for revocation of this Executive Order. The Executive Order may be revoked only after a ten-day written notice of intention to revoke the Executive Order, in which period the holder of the Executive 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 Executive Order may not be revoked until a determination is made after a hearing that grounds for revocation exist.

Executed at El Monte, California, this 16<sup>th</sup> day of November 2012.

  
Annette Hebert, Chief

Mobile Source Operations Division

## Attachment A

Air Resources Board Certified Engine Families for the  
Engine Control Systems Purifilter EGR Diesel Particulate Filter

Model Year	Manufacturer	Engine Family	Displacement (L)
2002	Cummins	2CEXH0912XAG	14.9
2002	Mack	2MKXH11.9H64	11.9
2003	Cummins	3CEXH0359BAG	5.9
2003	Cummins	3CEXH0359BAH	5.9
2003	Cummins	3CEXH0661MAT	10.8
2003	Cummins	3CEXH0661MAU	10.8
2003	Cummins	3CEXH0912XAH	14.9
2003	Cummins	3CEXH0912XAJ	14.9
2003	Detroit Diesel Corporation	3DDXH12.7EGY	12.7
2003	Detroit Diesel Corporation	3DDXH14.0ELY	14.0
2003	Mack	3MKXH11.9H64	11.9
2003	Mack	3MKXH11.9H70	11.9
2003	Volvo	3VTXH12.150S	12.1
2004	Cummins	4CEXH0359BAG	5.9
2004	Cummins	4CEXH0359BAH	5.9
2004	Cummins	4CEXH0505CAR	8.3
2004	Cummins	4CEXH0505CAS	8.3
2004	Cummins	4CEXH0540LAE	8.8
2004	Cummins	4CEXH0661MAT	10.8
2004	Cummins	4CEXH0661MAU	10.8
2004	Cummins	4CEXH0912XAH	14.9
2004	Cummins	4CEXH0912XAJ	14.9
2004	Detroit Diesel Corporation	4DDXH12.7EGY	12.7
2004	Detroit Diesel Corporation	4DDXH14.0ELY	14.0
2004	Isuzu	4SZXH07.84RA	7.8
2004	Isuzu	4SZXH07.84RW	7.8
2004	Mack	4MKXH11.9H64	11.9
2004	Mack	4MKXH11.9H70	11.9
2004	Mack	4MKXH11.9H73	11.9
2004	Mercedes	4MBXH4.25DJA	4.3
2004	Mercedes	4MBXH6.37DJA	6.4
2004	Mercedes	4MBXH12.8DJA	12.8
2004	Volvo	4VTXH12.150S	12.1
2005	Cummins	5CEXH0359BAF	5.9
2005	Cummins	5CEXH0359BAG	5.9
2005	Cummins	5CEXH0359BAH	5.9
2005	Cummins	5CEXH0505CAR	8.3
2005	Cummins	5CEXH0540LAE	8.8
2005	Cummins	5CEXH0661MAT	10.8
2005	Cummins	5CEXH0661MAU	10.8
2005	Cummins	5CEXH0661MAX	10.8

## Attachment A (continued)

Model Year	Manufacturer	Engine Family	Displacement (L)
2005	Cummins	5CEXH0912XAH	14.9
2005	Cummins	5CEXH0912XAJ	14.9
2005	Detroit Diesel Corporation	5DDXH12.7EGY	12.7
2005	Detroit Diesel Corporation	5DDXH14.0ELY	14.0
2005	Isuzu	5SZXH07.84RA	7.8
2005	Isuzu	5SZXH07.84RB	7.8
2005	Isuzu	5SZXH07.84RW	7.8
2005	Mack	5MKXH11.9H70	11.9
2005	Mack	5MKXH11.9H73	11.9
2005	Mercedes	5MBXH4.25DJA	4.3
2005	Mercedes	5MBXH6.37DJA	6.4
2005	Mercedes	5MBXH7.20DJA	7.2
2005	Mercedes	5MBXH12.8DJA	12.8
2005	Volvo	5VTXH12.150S	12.1
2006	Cummins	6CEXH0359BAF	5.9
2006	Cummins	6CEXH0359BAG	5.9
2006	Cummins	6CEXH0359BAH	5.9
2006	Cummins	6CEXH0359BAI	5.9
2006	Cummins	6CEXH0661MAT	10.8
2006	Cummins	6CEXH0661MAU	10.8
2006	Cummins	6CEXH0661MAX	10.8
2006	Cummins	6CEXH0912XAH	14.9
2006	Cummins	6CEXH0912XAJ	14.9
2006	Detroit Diesel Corporation	6DDXH12.7EGY	12.7
2006	Detroit Diesel Corporation	6DDXH14.0ELY	14.0
2006	Isuzu	6SZXH07.84RA	7.8
2006	Isuzu	6SZXH07.84RW	7.8
2006	Mack	6MKXH10.8H73	10.8
2006	Mack	6MKXH11.9H70	11.9
2006	Mack	6MKXH11.9H73	11.9
2006	Mercedes	6MBXH4.25DJA	4.3
2006	Mercedes	6MBXH6.37DJA	6.4
2006	Mercedes	6MBXH7.20DJA	4.8
2006	Mercedes	6MBXH7.20DJA	7.2
2006	Mercedes	6MBXH12.8DJA	12.8
2006	Volvo	6VTXH12.150S	12.1
2006	Volvo	6VTXH16.1C01	16.1
2007	Cummins	7CEXH0661MAC	10.8
2008	Cummins	8CEXH0661MAC	10.8

Attachment B

Purifilter EGR Diesel Particulate Filter			
	Part	Qty	Part Number
1	Purifilter EGR DPF assembly	1	A76M-____
2	Silicon Carbide Diesel Particulate Filter	1	C19E-008_
3	Diesel Oxidation Catalyst	1	C10M-000_
4	iAD Backpressure Monitor	1	A56-00__
5	Backpressure Sensor	1	J35-0355
6	Thermocouple	1	J35-0351

Definition:

1. Purifilter EGR system  
A76M-<configuration> where:  
Configuration:

Configuration	DPF part number	DOC part number
0001 to 0018	C19E-0082	C10M-0001
0019 to 0045	C19E-0083	C10M-0002
0046 to 0063	C19E-0084	C10M-0003
0064 to 0081	C19E-0085	C10M-0004
0082 to 0099	C19E-0086	C10M-0005
0100 to 0108	C19E-0083	C10M-0002
0109 to 0114	C19E-0084	C10M-0003
0115 to 0120	C19E-0085	C10M-0004
0121 to 0126	C19E-0086	C10M-0005
0127 to 0132	C19E-0082	C10M-0001

2. Silicon Carbide Diesel Particulate Filter:  
C19E-008<size> where:  
Size:  
2 = 9" x 12"  
3 = 10.5" x 12"  
4 = 11.25" x 14"  
5 = 12" x 15"  
6 = 13.5" x 15"

Attachment B (continued)

3. Diesel Oxidation Catalyst:  
C10M-000<size> where:

Size:

1 = 9" x 6"

2 = 10.5" x 6"

3 = 11.25" x 6"

4 = 12" x 6"

5 = 13.5" x 6"

Application	DPF Size	DOC Size
Up to 6.4L	9"x12"	9"x6"
5.9L to 8.3L	10.5"x12"	10.5"x6"
7.2L to 10.8L	11.25"x14"	11.25"x6"
8.8L to 12.8L	12"x15", 9"x12" (2)	12"x6", 9"x6" (2)
12.5L to 16.1L	13.5"x15", 10.5"x12" (2)	13.5"x6", 10.5"x6" (2)
14.9L to 16.1L	11.25"x14" (2)	11.25"x6" (2)

4. iAD Backpressure Monitor:  
A56-00<varies with configuration>