

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-55
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

CUMMINS ENGINE COMPANY, INC.

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102 and 43103 of the Health and Safety 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-45-3;

IT IS ORDERED AND RESOLVED: That the following Cummins Engine Company, Inc. 1990 model-year diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 8,500 pounds:

<u>Engine Family</u>	<u>Displacement</u> <u>Liters (Cubic Inches)</u>		<u>Exhaust Emission Control Systems</u> <u>(Special Features)</u>
LCE0239EAA2 (382)	3.9	(239)	Direct Injection - Diesel Smoke Puff Limiter (Turbocharger)
LCE0239FAA5 (383)	3.9	(239)	Direct Injection - Diesel Smoke Puff Limiter (Turbocharger) (Aftercooler)
LCE0359EAA7 (402)	5.9	(359)	Direct Injection - Diesel Smoke Puff Limiter (Turbocharger)
LCE0359FAAX (403)	5.9	(359)	Direct Injection - Diesel Smoke Puff Limiter (Turbocharger) (Aftercooler)
LCE0505EAA0 (412)	8.3	(505)	Direct Injection - Diesel Smoke Puff Limiter (Turbocharger)
LCE0505FAA3 (413)	8.3	(505)	Direct Injection - Diesel Smoke Puff Limiter (Turbocharger) (Aftercooler)

Engine models and codes are listed on attachments.

The following are the certification emission standards for these engine families:

<u>Hydrocarbons</u> <u>gm/bhp-hr</u>	<u>Carbon</u> <u>Monoxide</u> <u>gm/bhp-hr</u>	<u>Nitrogen Oxides</u> <u>gm/bhp-hr</u>	<u>Particulates</u> <u>gm/bhp-hr</u>
1.3	15.5	6.0	0.60

The following are the certification emission values for these engine families, except that compliance with the carbon monoxide emission standard has been demonstrated pursuant to the Code of Federal Regulations, Title 40, Part 85, Subpart A, Section 86.088-23(c)(2)(1):

<u>Engine Family</u>	<u>Hydrocarbons</u> <u>gm/bhp-hr</u>	<u>Nitrogen Oxides</u> <u>gm/bhp-hr</u>	<u>Particulates</u> <u>gm/bhp-hr</u>
LCE0239EAA2 (382)	0.7	4.8	0.46
LCE0239FAA5 (383)	0.4	4.4	0.45
LCE0359EAA7 (402)	0.4	5.2	0.43
LCE0359FAAX (403)	0.9	4.3	0.51
LCE0505EAA0 (412)	0.5	5.1	0.54
LCE0505FAA3 (413)	0.6	5.3	0.46

BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2036).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order and attachments.

Executed at El Monte, California this 1st day of June, 1989.


K. D. Drachand, Chief
Mobile Source Division

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1990 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
 HEAVY-DUTY DIESEL ENGINES

Manufacturer Cummins Engine Company, Inc. Engine Family LCE0239EAA2(382)
 Liter (CID) 3.9 (239) Eng. Type Inline 4
 Emission Control Sys. and (Special Features) SPL, DI

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP at RPM	Fuel Rate mm /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm /stroke (lbs/Hr)
4BT3.9	Robert Bosch	Robert Bosch	105@2500	76.0 (42.7)	265@1700	86.1 (32.9)
CPL0858	3917530(12V)	3912468				
	3917531(24V)	3915792				
	3917532(12V)	3919744				
	3917533(24V)	3920012				
	3919401(12V)					

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1990 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
 HEAVY-DUTY DIESEL ENGINES

LHDD

Manufacturer Cummins Engine Company, Inc. Engine Family LCE0239FAA5(383)
 Liter (CID) 3.9 (239) Eng. Type Inline 4
 Emission Control Sys. and (Special Features) SPL, DI

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)
4BTA3.9 CPL0857	Robert Bosch 3917535(12V) 3917536(24V) 3917537(12V) 3917538(24V) 3911240(12V) 3911241(24V) 3914886(12V) 3914887(24V) 3914932(12V) 3914933(24V) 3914845(12V) 3914846(24V) 3915523(12V) 3915524(24V) 3919403(12V)	3912468 3915792 3919744 3920012	120@2500	86.3(48.5)	302@1700	97.1(37.1)

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 HEAVY-DUTY DIESEL ENGINES

MHDD

Manufacturer Cummins Engine Company, Inc. Engine Family LCE0359EAA7 (402)
 Liter (CID) 5.9 (359) Eng. Type Inline 6
 Emission Control Sys. and (Special Features) SPL, DI

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)
6BT5.9 CPL0804	Robert Bosch 3917943 (12V)	Robert Bosch 3909522	160@2500	78.3(66.0)	400@1700	82.0(47.0)
	3916991 (12V)	3915790				
	3916992 (24V)	3919347				
	3916896 (12V)	3919957				
	3916897 (24V)					
6BT5.9 CPL0804	Robert Bosch 3917004 (12V)	Robert Bosch 3909522	145@2600	69.5(60.9)	340@1700	70.1(40.2)
	3917005 (24V)	3915790				
	3917006 (12V)	3919347				
	3917007 (24V)	3919957				

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1990 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET MHDD
 HEAVY-DUTY DIESEL ENGINES

Manufacturer Cummins Engine Company, Inc. Engine Family LCE0359FAAX(403)

Liter (CID) 5.9 (359) Eng. Type Inline 6

Emission Control Sys. and (Special Features) SPL, DI

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)
6BTA5.9	3916994(12V)	3912468	180@2500	87.2 (73.5)	451@1700	96.1 (55.1)
CPL0856	3916995(24V)	3915792				
	3916996(12V)	3919744				
	3916997(24V)	3920012				

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1990 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
 HEAVY-DUTY DIESEL ENGINES

MHDD

Manufacturer Cummins Engine Company, Inc. Engine Family LCE0505EAA0 (412)
 Liter (CID) 8.3 (505) Eng. Type Inline 6
 Emission Control Sys. and (Special Features) SPL, DI (TC)

Engine Model	Fuel Injection	Injector Mfr. Part Number	Maximum Rated HP at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)
	Pump Mfr. Part Number					
6CT8.3	Robert Bosch	Robert Bosch	210@2200	110.7(82.1)	605@1500	120.5(61.0)
CPL0819	3911352 3012645 3014299	3911350				
CPL0955	3912636	3911350	210@2500	103.9(87.6)	605@1500	124.1(62.8)

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1990 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
 HEAVY-DUTY DIESEL ENGINES

MHDD

Manufacturer Cummins Engine Company, Inc. Engine Family LCE0505FAA3 (413)
 Liter (CID) 8.3 (505) Eng. Type Inline 6
 Emission Control Sys. and (Special Features) SPL. DI (TC, IC)

Engine Model	Fuel Injection Pump Mfr. Part Number	Injector Mfr. Part Number	Maximum Rated HP at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)	Maximum Rated Torque at RPM	Fuel Rate mm ³ /stroke (lbs/Hr)
6CTA8.3 CPL 0893	Robert Bosch 3910063 3915168	Robert Bosch 3908513	250@2200	130.2(96.6)	728@1500	148.9(75.3)
	3915907 3908567	3908513	240@2200	125.1(92.8)	645@1500	133.4(67.5)
	3915581 3912640	3908513	235@2100	125.7(89.0)	658@1500	131.5(66.5)
6CTA8.3 CPL 1269	Robert Bosch 3917889	Robert Bosch 3908513	240@2400	120 (97.1)	645@1500	129 (65.3)

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