State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-1-25

Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

CATERPILLAR, INC.

Pursuant to the authority vested in the Air Resources Board by Sections 43000.5, 43013 and 43018 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-45-9;

IT IS ORDERED AND RESOLVED: That the following Caterpillar, Inc. 1997 model-year engine, with rated power between 175 and 750 horsepower, and exhaust emission control systems are certified as described below for use in heavy-duty off-road equipment:

Typical Equipment Usage: Industrial Equipment, Wheel Loader, Excavator, Track Loader, Motor Grader

Fuel Type: Diesel

Engine Family	Liters	(Cubic Inches)	Exhaust Emission Control Systems and Special Features
VCP6.6RZDARB	6.6	(403)	Turbocharger Charge Air Cooler Smoke Puff Limiter

Engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matters (PM) certification exhaust emission standards, in grams per brake horsepower-hour (g/bhp-hr), and the opacity of smoke emission standards, in percent (%), during acceleration (Accel), lugging (Lug), and peak (Peak) modes, for this engine family are (Title 13, California Code of Regulations, Section 2423):

Exhaust Emissions (g/bhp-hp)				Smoke Opaciity (%)		
THC	CO	NOx	PM	Accel	Lug	Peak
1.0	8.5	6.9	0.4	20	15	50

The THC, CO, NOx and PM exhaust emission certification values, in g/bhp-hr, and the opacity of smoke emission certification values, in percent (%), for this engine family are:

	Exhaust Emissions (g/bhp-hr)				Smoke Opacity (%)		
Engine Family	THC	CO	NOx	PM	Accel	Lug	Peak
VCP6.6RZDARB	0.4	1.7	6.2	0.4	16	5	38

BE IT FURTHER RESOLVED: That the listed engine models comply with the "Exhaust Emission Standards and Test Procedures--Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with the "Emission Control Labels--1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Section 2425 et seq.).

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

Executed at El Monte, California this 11th day of December 1996.

R. B. Summerfield, Chief
Mobile Source Operations Division

1997 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY OFF-ROAD DIESEL ENGINES

E.F: VCP6.6RZDARB

Engine Model (Eng. Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm^3/stroke (lbs/hr)	Fuel Pump & Injector Part No.	ECM/PCM Part No.	EGR Valve Part No.	PTOX / Catalytic Converter Part No.
3116 (16)	165 @ 2400	79 (64.0)	1278216/1278216	----	----	----
3116 (17)	150 @ 2400	72 (58.6)	1278216/1278216	----	----	----
3116 (18)	190 @ 2200	96 (71.4)	1278216/1278216	----	----	----
3116 (19)	160 @ 2200	80 (59.5)	1278216/1278216	----	----	----
3116 (20)	150 @ 2200	76 (56.1)	1278216/1278216	----	----	----
3116 (21)	140 @ 2200	71 (52.5)	1278216/1278216	----	----	----
3116 (22)	150 @ 2100	79 (55.7)	1278216/1278216	----	----	----
3116 (23)	145 @ 2000	80 (53.6)	1278216/1278216	----	----	----
3116 (24)	192 @ 1800	109 (66.0)	1278216/1278216	----	----	----
3116 (25)	180 @ 1800	103 (62.3)	1278216/1278216	----	----	----
3116 (26)	160 @ 1800	92 (55.8)	1278216/1278216	----	----	----
3116 (27)	MIN 130 @ 1800	77 (46.8)	1278216/1278216	----	----	----
3116 (28)	210 @ 2300	98 (75.8)	1278218/1278218	----	----	----
3116 (29)	187 @ 2300	88 (68.4)	1278216/1278216	----	----	----
3116 (30)	180 @ 2200	94 (69.6)	1278216/1278216	----	----	----
3116 (31)	177 @ 2000	91 (61.2)	1278216/1278216	----	----	----
3116 (32)	174 @ 2200	85 (63.1)	1278216/1278216	----	----	----
3116 (33)	166 @ 2000	86 (57.8)	1278216/1278216	----	----	----
3116 (34)	161 @ 1950	85 (55.7)	1278216/1278216	----	----	----
3116 (35)	151 @ 2000	78 (52.8)	1278216/1278216	----	----	----
3116 (36)	*150 @ 1950*	*84 (55.4)*	*1278216/1278216*	----	----	----

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