

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-1-109  
Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

CATERPILLAR, INC.

Pursuant to the authority vested in the Air Resources Board at Sections 43000.5, 43013, and 43018 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned at Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9; and

IT IS ORDERED AND RESOLVED: That the following diesel engines and the exhaust emission control systems produced by the manufacturer are certified as described below for use in heavy-duty off-road equipment:

Model Year: 2000

Typical Equipment Usage: Loader and Industrial equipment

Engine Power Ratings Range: 175 – 750 horsepower, inclusive

Fuel Type: Diesel

<u>Engine Family</u>	<u>Displacement</u>		<u>Exhaust Emission Control Systems and Special Features</u>
	<u>Liters</u>	<u>Cubic Inches</u>	
YCPXL07.2MRB	7.2	442	Smoke Puff Limiter Turbocharger Charge Air Cooler

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

	<u>Exhaust Emissions (g/hp-h)</u>				<u>Smoke Opacity (%)</u>		
	<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
Standard	1.0	8.5	6.9	0.4	20	15	50
Certification	0.2	1.0	6.3	0.2	14	3	36

BE IT FURTHER RESOLVED: Any engine models listed on the attachments with engine power ratings less than 175 horsepower are not covered by this Executive Order.

BE IT FURTHER RESOLVED: That the listed engine models comply with "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 "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, Sections 2425 *et seq.*).

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

Executed at El Monte, California this 7 day of December 1999.



R. B. Summerfield, Chief  
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

EO: 4-R-1-109

Manufacturer: **CATERPILLAR INC.**

Process Code: **New Submission**

EPA Engine Family: **YCPXL07.2MRB**

**NA**

Manufacturer Family Name:

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
1 - Cert Engine	3126	255 @ 2200	nominal values.	Due to product-	ion engine avgs.	these fuel rates	may change.	<b>TS, AC, SPL</b>
2	3126	230 @ 2600	134	99.3	742 @ 1450	150	73.0	EM, DI, TC, SPL,
3	3126	250 @ 2500	103	89.9	575 @ 1950	114	75.0	EM, DÇAC, SPL,
4	3126	260 @ 2400	119	100.3	683 @ 1650	132	73.1	EM, DÇAC, SPL,
5	3126	255 @ 2400	128	103.4	740 @ 1450	148	72.2	EM, DÇAC, SPL,
6	3126	240 @ 2400	125	100.9	725 @ 1450	145	70.5	EM, DÇAC, SPL,
7	3126	230 @ 2400	116	93.9	683 @ 1450	135	65.7	EM, DÇAC, SPL,
8	3126	220 @ 2400	111	90.0	654 @ 1450	129	62.7	EM, DÇAC, SPL,
9	3126	260 @ 2600	106	85.7	626 @ 1400	123	57.7	EM, DÇAC, SPL,
10	3126	250 @ 2200	122	106.5	683 @ 1650	139	77.3	EM, DÇAC, SPL,
11	3126	240 @ 2200	131	97.1	729 @ 1450	146	71.4	EM, DÇAC, SPL,
12	3126	230 @ 2200	125	92.7	700 @ 1450	139	68.0	EM, DÇAC, SPL,
13	3126	215 @ 2200	119	88.1	670 @ 1450	133	64.8	EM, DÇAC, SPL,
14	3126	195 @ 2100	111	81.9	625 @ 1400	123	57.8	EM, DÇAC, SPL,
15	3126	230 @ 2200	103	73.1	576 @ 1450	114	55.7	EM, DÇAC, SPL,
16	3126	225 @ 2200	119	88.1	670 @ 1450	133	64.8	EM, DÇAC, SPL,
17	3126	221 @ 2200	113	83.7	724 @ 1400	150	70.5	EM, DÇAC, SPL,
18	3126	221 @ 2200	110	81.7	710 @ 1400	135	63.8	EM, DÇAC, SPL,
19	3126	225 @ 2200	113	81.7	710 @ 1400	135	63.8	EM, DÇAC, SPL,
20	3126	221 @ 2200	110	83.7	724 @ 1400	150	70.5	EM, DÇAC, SPL,
21	3126	221 @ 2200	110	81.7	710 @ 1400	135	63.8	EM, DÇAC, SPL,
22	3126	217 @ 2200	109	81.7	710 @ 1400	135	63.8	EM, DÇAC, SPL,
23	3126	204 @ 2200	104	80.7	696 @ 1400	144	67.9	EM, DÇAC, SPL,
24	3126	204 @ 2200	102	77.0	721 @ 1400	149	70.1	EM, DÇAC, SPL,
25	3126	201 @ 2200	101	75.3	653 @ 1400	126	59.1	EM, DÇAC, SPL,
26	3126	201 @ 2200	101	74.6	643 @ 1400	123	58.1	EM, DÇAC, SPL,
27	3126	196 @ 2200	101	74.6	643 @ 1400	123	58.1	EM, DÇAC, SPL,
28	3126	163 @ 2200	100	74.1	692 @ 1400	143	67.5	EM, DÇAC, SPL,
29	3126	163 @ 2200	84	62.4	595 @ 1400	113	53.4	EM, DÇAC, SPL,
30	3126	163 @ 2200	85	63.2	595 @ 1400	113	53.4	EM, DÇAC, SPL,
31	3126	158 @ 2200	84	62.4	595 @ 1400	113	53.4	EM, DÇAC, SPL,
32	3126	180 @ 2200	80	59.3	578 @ 1400	110	51.9	EM, DÇAC, SPL,
33	3126	163 @ 2200	93	69	651 @ 1400	132	62.3	EM, TC, SPL,
			86	63.5	607 @ 1400	120	56.5	EM, DÇAC, SPL,