

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-1-108  
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: Generator 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>	
YCPXL07.0MRB	7.0	425	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	1.7	6.0	0.2	14	5	22

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: U-R-1-108

Process Code: **New Submission**

Manufacturer: **CATERPILLAR INC.**

**N/A**

EPA Engine Family: **YCPXL07.0MRB**

Manufacturer Family Name:

1. Engine Code	2. Engine Model	3. BHP @ RPM (SAE Gross)	4. Fuel Rate: mm <sup>3</sup> /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 <sup>3</sup> /stroke @ peak torque	8. Fuel Rate: (lbs/hr) @ peak torque	9. Emission Control Device Per SAE J1930
Note: Peak Hp and Peak torque		fuel rates are	nominal values.	Due to product-	ion engine avgs.	these fuel rates	may change.	
1 - Cert Engine	3304	205 @ 1800	179	72.2	688 @ 1200	222	59.7	EM, DI, TC, SPL,
2	3304	179 @ 2200	143	70.6	590 @ 1400	181	56.9	EM, D <del>Q</del> AC, SPL,
3	3304	166 @ 2200	129	51.9	557 @ 1400	165	51.9	EM, D <del>Q</del> AC, SPL,
4	3304	155 @ 2000	125	56.0	495 @ 1400	147	46.0	EM, D <del>Q</del> AC, SPL,
5	3304	165 @ 2200	128	63.0	525 @ 1400	156	49.0	EM, D <del>Q</del> AC, SPL,
6	3304	185 @ 2200	144	71.0	593 @ 1400	175	55.0	EM, D <del>Q</del> AC, SPL,
7	3304	200 @ 2200	156	77.0	639 @ 1400	191	60.0	EM, D <del>Q</del> AC, SPL,
8	3304	174 @ 1800	151	61.0	658 @ 1200	182	49.0	EM, D <del>Q</del> AC, SPL,
9	3304	174 @ 1800	175	70.8	657 @ 1200	220	59.3	EM, D <del>Q</del> AC, SPL,
10	3304	192 @ 1800	171	68.9	657 @ 1200	202	54.5	EM, D <del>Q</del> AC, SPL,
11	3304	174 @ 1800	171	68.9	657 @ 1200	204	54.8	EM, D <del>Q</del> AC, SPL,
12	3304	192 @ 1800	175	70.8	657 @ 1200	202	54.5	EM, D <del>Q</del> AC, SPL, CAC

↑  
TSAC, SPL