



Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 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-02-003;

**IT IS ORDERED AND RESOLVED:** That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2004	4CPXL08.8HSL	8.8	Diesel	8000
<b>SPECIAL FEATURES &amp; EMISSION CONTROL SYSTEMS</b>			<b>TYPICAL EQUIPMENT APPLICATION</b>	
Direct Diesel Injection, Turbocharger, Charge Air Cooler and Engine Control Module			Loader, Tractor, Motor Grader and Industrial Equipment	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
75≤KW<130	Tier 2	STD	N/A	N/A	6.6	5.0	0.30	20	15	50
130≤KW<225	Tier 2	STD	N/A	N/A	6.6	3.5	0.20	20	15	50
		CERT	--	--	6.0	1.4	0.17	7	1	15

**BE IT FURTHER RESOLVED:** That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

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

**This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.**

Executed at El Monte, California on this 15<sup>TH</sup> day of December 2003.

Allen Lyons, Chief  
Mobile Source Operations Division

Engine Model Summary Form

U-R-001-0248

Manufacturer: CATERPILLAR INC.  
 Engine category: Nonroad Over 50 Hp  
 EPA Engine Family: 4CPXL08.8HSL  
 Mfr Family Name: NA  
 Process Code: New Submission

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
Note: Peak HP and Peak Torque fuel rates are nominal values. Due to production engine avgs. these fuel rates may change.								
1 - Cert Engine	C-9	345 @ 2200	164	121.1	1134 @ 1400	218	102.8 <i>CAC</i>	EM, DI, TC, ECM,
2	C-9	185 @ 2000	111	74.0	767 @ 1300	154	67.0	EM, DI, TC, ECM,
3	C-9	185 @ 2000	110	74.0	767 @ 1400	154	67.0	EM, DI, TC, ECM,
4	C-9	165 @ 2000	101	68.0	696 @ 1300	146	64.0	EM, DI, TC, ECM,
5	C-9	165 @ 2000	101	68.0	696 @ 1300	146	64.0	EM, DI, TC, ECM,
6	C-9	247 @ 1800	145	88.0	904 @ 1400	174	82.0	EM, DI, TC, ECM,
7	C-9	285 @ 2200	144	106.0	995 @ 1200	197	80.0	EM, DI, TC, ECM,
8	C-9	265 @ 2200	136	101.0	963 @ 1200	182	73.0	EM, DI, TC, ECM,
9	C-9	250 @ 2200	133	99.0	882 @ 1400	172	81.0	EM, DI, TC, ECM,
10	C-9	275 @ 2200	141	104.0	995 @ 1200	189	76.0	EM, DI, TC, ECM,
11	C-9	231 @ 2000	132	89.0	881 @ 1300	178	78.0	EM, DI, TC, ECM,
12	C-9	185 @ 2000	110	74.0	764 @ 1000	146	49.0	EM, DI, TC, ECM,
13	C-9	224 @ 2100	120	85.0	863 @ 1400	164	77.0	EM, DI, TC, ECM,
14	C-9	244 @ 2100	129	91.0	931 @ 1400	179	84.0	EM, DI, TC, ECM,
15	C-9	288 @ 2100	145	102.0	1062 @ 1400	200	94.0	EM, DI, TC, ECM,
16	C-9	275 @ 2200	132	97.0	904 @ 1400	173	82.0	EM, DI, TC, ECM,
17	C-9	300 @ 2200	135	100.0	985 @ 1400	187	88.0	EM, DI, TC, ECM,
18	C-9	300 @ 2000	144	106.0	1066 @ 1400	199	94.0	EM, DI, TC, ECM,
19	C-9	165 @ 2000	101	68.0	685 @ 1000	130	44.0	EM, DI, TC, ECM,
20	C-9	145 @ 2000	92	62.0	606 @ 1000	116	39.0	EM, DI, TC, ECM,
21	C-9	180 @ 2200	107	79.0	734 @ 1400	152	71.0	EM, DI, TC, ECM,
22	C-9	225 @ 2200	124	92.0	801 @ 1400	160	75.0	EM, DI, TC, ECM,
23	C-9	250 @ 2200	133	99.0	882 @ 1400	174	82.0	EM, DI, TC, ECM,
24	C-9	224 @ 2100	120	85.0	863 @ 1400	164	77.0	EM, DI, TC, ECM,
25	C-9	244 @ 2100	129	91.0	931 @ 1400	179	84.0	EM, DI, TC, ECM,
26	C-9	288 @ 2100	145	102.0	1062 @ 1400	200	94.0	EM, DI, TC, ECM,
27	C-9	275 @ 2200	131	97.0	904 @ 1400	177	83.0	EM, DI, TC, ECM,
28	C-9	209 @ 2100	115	81.0	810 @ 1400	154	72.0	EM, DI, TC, ECM,
29	C-9	224 @ 2100	120	85.0	863 @ 1400	164	77.0	EM, DI, TC, ECM,
30	C-9	244 @ 2100	129	91.0	935 @ 1400	178	84.0	EM, DI, TC, ECM,
31	C-9	247 @ 1800	145	88	902 @ 1400	174	82	EM, DI, TC, ECM.

# Engine Model Summary Form

Manufacturer: **CATERPILLAR INC.**  
 Engine category: **Nonroad Over 50 Hp**  
 EPA Engine Family: **4CPXL08.8HSL**  
 Mfr Family Name:  
 Process Code: **Running Change - 2**

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
33	C9	210@2000	111	74.0	767@1300	154	68.0	EM,DI,TC,EMC,CA
34	C9	210@2000	111	74.0	767@1300	154	68.0	EM,DI,TC,EMC,CA
35	C9	213@2000	112	75.0	840@1300	168	74.0	EM,DI,TC,EMC,CA
36	C9	224@2000	117	78.0	874@1300	174	76.0	EM,DI,TC,EMC,CA
37	C9	213@2000	112	75.0	840@1300	156	68.0	EM,DI,TC,EMC,CA
38	C9	224@2000	117	79.0	874@1300	162	71.0	EM,DI,TC,EMC,CA
39	C9	213@2000	112	75.0	840@1300	156	68.0	EM,DI,TC,EMC,CA
40	C9	224@2000	117	79.0	874@1300	162	71.0	EM,DI,TC,EMC,CA

# Engine Model Summary Form

Manufacturer: **CATERPILLAR INC.**

Engine category: **Nonroad Over 50 Hp**

EPA Engine Family: **4CPXL08.8HSL**

Mfr Family Name:

Process Code: **Running Change - 1**

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
32	C-9	282 @ 2100	136	96.0	1006 @ 1400	190	90	EM, DI, TC, ECM,

# Engine Model Summary Form

Manufacturer: **CATERPILLAR INC.**

Engine category: **Nonroad Over 50 Hp**

EPA Engine Family: **4CPXL08.8HSL**

Mfr Family Name:

Process Code: **Running Change 5**

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
41	C-9	275@2200	132	97.0	904@1400	173	82.0	EM,DI,TC,ECM,CA
42	C-9	300@2200	135	100.0	1049@1400	196	92.0	EM,DI,TC,ECM,CA