

	<b>CATERPILLAR, INC.</b>	<b>EXECUTIVE ORDER U-R-001-0287</b> New Off-Road Compression-Ignition Engines

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 December 15, 1998 Settlement Agreement between the Air Resources Board and the manufacturer, and any modifications thereof to the Settlement Agreement;

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)
2006	6CPXL08.8ESK	8.8	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler and Engine Control Module			Loader, Dozer, Scraper 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
130 ≤ KW < 225	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
225 ≤ KW < 450	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
		CERT	--	--	3.7	3.1	0.15	16	3	24

**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 21<sup>st</sup> day of December 2005.

  
 for Allen Lyons, Chief  
 Mobile Source Operations Division

# Engine Model Summary Form

ATTACHMENT 1 OF 1

U-R-001-0287

Manufacturer: **CATERPILLAR INC.**  
 Engine category: **Nonroad Over 50 Hp**  
 EPA Engine Family: **6CPXL08.8ESK**  
 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 diesels 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							EM,DI,TC,ECM,CAC
2	C9	375@1800	209	126.5	1250@1400	246	116.0	EM, DI, TC, ECM,
3	C9	330@2100	168	118	1173@1400	227	107	EM, DI, TC, ECM,
4	C9	289@2000	153	103	885@1400	181	85	EM, DI, TC, ECM,
5	C9	258@2000	138	93	795@1400	162	76	EM, DI, TC, ECM,
6	C9	350@2100	178	125.4	1029@1400	208	98.1	EM, DI, TC, ECM,
7	C9	228@1850	136	84.5	852@1300	185	80.7	EM, DI, TC, ECM,
8	C9	325@2200	162	119.6	1095@1400	222	104.6	EM, DI, TC, ECM,
9	C9	330@2100	176	124.6	1173@1400	235	110.8	EM, DI, TC, ECM,
10	C9	311@2100	166	117.0	1106@1400	231	109.0	EM, DI, TC, ECM,
11	C9	278@2100	147	104.0	988@1400	204	96.0	EM, DI, TC, ECM,
12	C9	311@2100	163	115.0	1098@1400	226	106.0	EM, DI, TC, ECM,
13	C9	275@2200	139	103.0	927@1400	186	103.0	EM, DI, TC, ECM,
14	C9	300@2200	149	110.0	1011@1400	200	110.0	EM, DI, TC, ECM,
15	C9	350@2200	173	128.0	1148@1400	234	110.0	EM, DI, TC, ECM,
16	C9	261@1800	153	93.0	915@1400	187	88.0	EM, DI, TC, ECM,
17	Cert Engine							EM, DI, TC, ECM,
18	C9	286@1800	167	101.0	1000@1400	203	96.0	EM, DI, TC, ECM,
19	C9	480@1800	265	160.0	NA	NA	NA	EM, DI, TC, ECM,
20	C9	480@1800	265	160.0	NA	NA	NA	EM, DI, TC, ECM,
21	C9	398@1800	226	137.0	NA	NA	NA	EM, DI, TC, ECM,
22	C9	374@1800	209	127.0	NA	NA	NA	EM, DI, TC, ECM,
23	C9	386@1500	253	127.0	NA	NA	NA	EM, DI, TC, ECM,
24	C9	373@1500	245	124.0	NA	NA	NA	EM, DI, TC, ECM,
25	C9	480@1800	265	160.0	NA	NA	NA	EM, DI, TC, ECM,
26	C9	398@1800	226	137.0	NA	NA	NA	EM, DI, TC, ECM,
27	C9	480@1800	265	160.0	NA	NA	NA	EM, DI, TC, ECM,
28	C9	374@1800	209	127.0	NA	NA	NA	EM, DI, TC, ECM,
29	C9	286@2000	155	104.0	885@1400	184	87.0	EM, DI, TC, ECM,
30	C9	303@2000	166	112.0	999@1200	228	92.0	EM, DI, TC, ECM,
31	C9	264@1800	163	99.0	991@1300	204	89.0	EM, DI, TC, ECM,✓

# Engine Model Summary Form

Manufacturer: **CATERPILLAR INC.**

Engine category: **Nonroad Over 50 Hp**

EPA Engine Family: **6CPXL08.8ESK**

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	C9	213@1850	130	81	909@1300	181	79	EM,DI,TC,ECM,CA
33	C9	213@1850	129	80	909@1300	186	82	EM,DI,TC,ECM,CA

Manufacturer: **CATERPILLAR INC.**

Engine category: **Nonroad Over 50 Hp**

EPA Engine Family: **6CPXL08.8ESK**

Mfr Family Name:

Process Code: **Running Change - 3**

1. Engine Code	2. Engine Model	3. BHP@RPM (SAE Gross)	4. Fuel Rate: mmi/stroke @ peak HP (for diesel only)	5. Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mmi/stroke@peak torque	8. Fuel Rate: (lbs/hr)@peak torque	9. Emission Control Device Per SAE J1930
35	C9	259@1600	171	92	926@1400	186	88	EM,DI,TC,ECM,CA
36	C9	375@2200	188	139	1230@1400	247	117	EM,DI,TC,ECM,CA

# Engine Model Summary Form

Manufacturer: **CATERPILLAR INC.**  
 Engine category: **Nonroad Over 50 Hp**  
 EPA Engine Family: **6CPXL08.8ESK**  
 Mfr Family Name:  
 Process Code: **Running Change - 4**

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
37	C9	300@2100	152	108	988@1400	198	93	EM,DI,TC,ECM,CA

# Engine Model Summary Form

Manufacturer: **CATERPILLAR INC.**  
 Engine category: **Nonroad Over 50 Hp**  
 EPA Engine Family: **6CPXL08.8ESK**  
 Mtr Family Name:  
 Process Code: **Running Change - 5**

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
34	C9	350 @ 1800	206	125	1148 @ 1400	232	109	EM,DI,TC,ECM,CA

# Engine Model

Manufacturer: **CATERPILLAR INC.**  
 Engine category: **Nonroad Over 50 Hp**  
 EPA Engine Family: **6CPXL08.8ESK**  
 Mfr Family Name:  
 Process Code: **Running Change - 6**

1. Engine Code	2. Engine Model	3. BHP@RPM (SAE Gross)	4. Fuel Rate: mmi/stroke @ peak HP (for diesel only)	5. Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mmi/stroke@peak torque	8. Fuel Rate: (lbs/hr)@peak torque	9. Emission Control Device Per SAE J1930
38	C9	350@1800	199	121	1151@1400	228	107	EM, DI, TC, ECM,

# Engine Model Summary Form

**Manufacturer:** CATERPILLAR INC.  
**Engine category:** Nonroad Over 50 Hp  
**EPA Engine Family:** 6CPXL08.8ESK  
**Mfr Family Name:**  
**Process Code:** Running Change - 7

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
30	C9	228@1850	132	82	980@1300	195	85	EM,DI, TC, ECM,
31	C9	228@1850	137	85	980@1300	197	90	EM,DI, TC, ECM,



Manufacturer: CATERPILLAR INC.

Engine category: Nonroad Over 50 Hp

EPA Engine Family: 6CPXL08.8ESK

Mfr Family Name:

Process Code: Running Change - 3

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
35	C9	259@1600	171	92	926@1400	186	88	EM,DI,TC,ECM,CA
36	C9	375@2200	188	139	1230@1400	247	117	EM,DI,TC,ECM,CA

# Engine Model Summary Form

**Manufacturer:** CATERPILLAR INC.  
**Engine category:** Nonroad Over 50 Hp  
**EPA Engine Family:** 6CPXL08.8ESK  
**Mfr Family Name:**  
**Process Code:** Running Change - 4

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
37	C9	300@2100	152	108	988@1400	198	93	EM,DI,TC,ECM,CA

# Engine Model Summary Form

Manufacturer: **CATERPILLAR INC.**  
 Engine category: **Nonroad Over 50 Hp**  
 EPA Engine Family: **6CPXL08.8ESK**  
 Mfr Family Name:  
 Process Code: **Running Change - 5**

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
34	C9	350@1800	206	125	1148@1400	232	109	EM,DI,TC,ECM,CA

# Engine Model

**Manufacturer:** CATERPILLAR INC.  
**Engine category:** Nonroad Over 50 Hp  
**EPA Engine Family:** 6CPXL08.8ESK  
**Mfr Family Name:**  
**Process Code:** Running Change - 6

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
38	C9	350@1800	199	121	1151@1400	228	107	EM, DI, TC, ECM,

# Engine Model

Manufacturer: **CATERPILLAR INC.**  
 Engine category: **Nonroad Over 50 Hp**  
 EPA Engine Family: **6CPXL08.8ESK**  
 Mfr Family Name:  
 Process Code: **Running Change - 8**

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
39	C9	254@2100	134	95	782@1400	167	79	EM, DI, TC, ECM,