

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)
2005	5CPXL27.0ESL	27.0	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			Industrial Equipment	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) or family emission limit(s) (FEL) as applicable, 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
KW > 560	Tier 1	<b>STD</b>	1.3	9.2	N/A	11.4	0.54	20	15	50
		<b>FEL</b>	N/A	6.1	N/A	N/A	0.14	N/A	N/A	N/A
		<b>CERT</b>	0.1	5.4	-	1.0	0.08	14	1	21

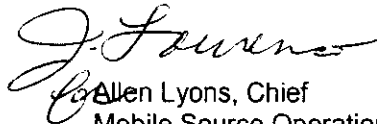
**BE IT FURTHER RESOLVED:** That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

**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 8<sup>th</sup> day of December 2005.

  
 Allen Lyons, Chief  
 Mobile Source Operations Division

# Engine Model Summary Form

ATTACHMENT 1 OF 1

U-R-001-0284

Manufacturer: **CATERPILLAR, INC.**  
 Engine category: **Nonroad Over 50 Hp**  
 EPA Engine Family: **5CPXL27.0ESL**  
 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
1	C27	1151@2100	277	391.7	3876@1400	375	353.0	EM, DI, TC, ECM, <b>CAC</b>
2	C27	1151@2100	277	391.7	3876@1400	375	353.0	EM, DI, TC, ECM,
3	C27	1151@1800	317	384.1	3876@1400	375	353.0	EM, DI, TC, ECM,
4	C27	950@2100	228	316.3	3202@1400	310	291.7	EM, DI, TC, ECM,
5	C27	950@1800	261	316.3	3202@1400	310	291.7	EM, DI, TC, ECM,
6	C27	1050@2100	256	361.0	3539@1400	341	320.8	EM, DI, TC, ECM,
7	C27	1050@1800	293	354.8	3539@1400	341	320.8	EM, DI, TC, ECM,

# Engine Model

Manufacturer: **CATERPILLAR, INC.**  
 Engine category: **Nonroad Over 50 Hp**  
 EPA Engine Family: **5CPXL27.0ESL**  
 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
8	C27	1214@1800	332	401.5	NA	NA	NA	EM, DI, TC, ECM,
9	C27	1105@1800	307	372.4	NA	NA	NA	EM, DI, TC, ECM,
10	C27	1141@1800	311	376.9	NA	NA	NA	EM, DI, TC, ECM,
11	C27	1041@1800	289	349.5	NA	NA	NA	EM, DI, TC, ECM,
12	C27	1069@1800	291	352.1	NA	NA	NA	EM, DI, TC, ECM,
13	C27	976@1800	269	325.8	NA	NA	NA	EM, DI, TC, ECM,
14	C27	998@1800	271	328.3	NA	NA	NA	EM, DI, TC, ECM,
15	C27	925@1800	256	310.5	NA	NA	NA	EM, DI, TC, ECM,
16	C27	1214@1800	332	401.5	NA	NA	NA	EM, DI, TC, ECM,
17	C27	778@2000	195	262.7	2367@1300	230	201.6	EM, DI, TC, ECM,
18	C27	787@2000	198	266.0	2437@1600	228	245.6	EM, DI, TC, ECM,
19	C27	789@1800	215	260.5	2568@1200	253	204.2	EM, DI, TC, ECM,
20	C27	801@2100	192	271.2	2697@1400	267	251.6	EM, DI, TC, ECM,
21	C27	801@1800	218	264.3	2697@1400	267	251.6	EM, DI, TC, ECM,
22	C27	876@2100	213	301.4	2950@1400	291	273.8	EM, DI, TC, ECM,
23	C27	276@1800	237	287.5	2950@1400	291	273.8	EM, DI, TC, ECM,