

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	5PKXL04.4RE1	4.4 & 3.3	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection			Tractor 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):

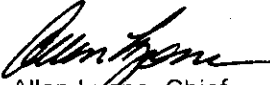
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
37≤KW<75	Tier 2	STD	N/A	N/A	7.5	5.0	0.40	20	15	50
		CERT	--	--	6.9	1.5	0.21	2	4	4

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 2ND day of December 2004.


 Allen Lyons, Chief
 Mobile Source Operations Division

Engine Model Summary Form

Manufacturer: Perkins Engines Company Ltd

Category: Nonroad CI

Engine Family: 5PKXL04.4RE1

Engine Name: 1104C-44 AND CATERPILLAR 3054

Submission Code: New Submission

U-R-022-0072

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	2161/2200	80.5 @ 2200	64.2	31.0	217.0 lbf ft @	68.0	21.1	DDI
2	2161/2100	83.1 @ 2400	62.0	32.5	217.0 lbf ft @	68.0	21.1	DDI
3	2160/2200	82.5 @ 2200	64.2	31.0	222.7 lbf ft @	68.0	21.1	DDI
4	2160/2300	84.5 @ 2200	63.7	32.0	222.7 lbf ft @	68.0	21.1	DDI
5	2160/2400	85.8 @ 2200	62.0	32.5	222.7 lbf ft @	68.0	21.1	DDI
6	2158/2000	72.5 @ 2000	63.3	28.0	222.7 lbf ft @	68.5	21.3	DDI
7	2158/2100	73.7 @ 2100	62.2	28.9	222.7 lbf ft @	68.5	21.3	DDI
8	2158/2200	75.1 @ 2200	61.1	29.8	222.7 lbf ft @	68.5	21.3	DDI
9	2159/2000	70.4 @ 2000	63.3	28.0	217.0 lbf ft @	68.5	21.3	DDI
10	2159/2100	71.1 @ 2100	62.2	28.9	217.0 lbf ft @	68.5	21.3	DDI
11	2159/2200	72.4 @ 2200	61.1	29.8	217.0 lbf ft @	68.5	21.3	DDI
12	2226/2200	53.0 @ 2200	57.0	20.7	163.7 lbf ft @	67.0	15.5	DDI
13	2228/2200	57.7 @ 2200	63.0	23.0	163.7 lbf ft @	67.0	15.5	DDI
14	2156/2000	67.7 @ 2000	57.1	25.3	207 lbf ft @ 1400	67.7	21.0	DDI
15	2156/2100	68.4 @ 2100	56.6	26.3	207 lbf ft @ 1400	67.7	21.0	DDI
16	2156/2200	69.7 @ 2200	56.0	27.3	207 lbf ft @ 1400	67.7	21.0	DDI
17	2157/2000	65.4 @ 2000	57.1	25.3	201 lbf ft @ 1400	67.7	21.0	DDI
18	2157/2100	66.0 @ 2100	56.6	26.3	201 lbf ft @ 1400	67.7	21.0	DDI
19	2157/2200	67.0 @ 2200	56.0	27.3	201 lbf ft @ 1400	67.7	21.0	DDI
20	2460/1800	72.4 @ 1800	69.0	27.5				DDI
21	2446/1800	65.7 @ 1800	62.8	25.0				DDI