California Environmental Protection Agency AIR RESOURCES BOARD	PERKINS ENGINES COMPANY LTD.	EXECUTIVE ORDER U-R-022-0094 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 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)
2007	7PKXL04.4RE1	4.4, 3.3	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection	Cranes, Loaders, Tractor, Dozer, Other 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 < 56	Tier 2	STD	N/A	N/A	7.5	5.0	0.40	20	15	50
		CERT	--	--	7.0	0.9	0.17	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 21st day of December 2006.

Raphael Susnowitz

pe Annette Hebert, Chief
Mobile Source Operations Division

Engine Model Summary Template

Attachment 1 of 1

Engine Family	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
PKXL04.4RE1	1	2161/2200	80.5 @ 2200	64.2	31.0	217.0 lbf ft @	68.0	21.1	DDI
PKXL04.4RE1	2	2161/2100	83.1 @ 2400	62.0	32.5	217.0 lbf ft @	68.0	21.1	DDI
PKXL04.4RE1	3	2160/2200	82.5 @ 2200	64.2	31.0	222.7 lbf ft @	68.0	21.1	DDI
PKXL04.4RE1	4	2160/2300	84.5 @ 2200	63.7	32.0	222.7 lbf ft @	68.0	21.1	DDI
'PKXL04.4RE1	5	2160/2400	85.8 @ 2200	62.0	32.5	222.7 lbf ft @	68.0	21.1	DDI
'PKXL04.4RE1	6	2158/2000	72.5 @ 2000	63.3	28.0	222.7 lbf ft @	68.5	21.3	DDI
'PKXL04.4RE1	7	2158/2100	73.7 @ 2100	62.2	28.9	222.7 lbf ft @	68.5	21.3	DDI
'PKXL04.4RE1	8	2158/2200	75.1 @ 2200	61.1	29.8	222.7 lbf ft @	68.5	21.3	DDI
'PKXL04.4RE1	9	2159/2000	70.4 @ 2000	63.3	28.0	217.0 lbf ft @	68.5	21.3	DDI
'PKXL04.4RE1	10	2159/2100	71.1 @ 2100	62.2	28.9	217.0 lbf ft @	68.5	21.3	DDI
'PKXL04.4RE1	11	2159/2200	72.4 @ 2200	61.1	29.8	217.0 lbf ft @	68.5	21.3	DDI
7PKXL04.4RE1	12	2226/2200	53.0 @ 2200	57.0	20.7	163.7 lbf ft @	67.0	15.5	DDI
7PKXL04.4RE1	13	2228/2200	57.7 @ 2200	63.0	23.0	163.7 lbf ft @	67.0	15.5	DDI
7PKXL04.4RE1	14	2156/2000	67.7 @ 2000	57.1	25.3	207 lbf ft @	67.7	21.0	DDI
7PKXL04.4RE1	15	2156/2100	68.4 @ 2100	56.6	26.3	207 lbf ft @	67.7	21.0	DDI
7PKXL04.4RE1	16	2156/2200	69.7 @ 2200	56.0	27.3	207 lbf ft @	67.7	21.0	DDI
7PKXL04.4RE1	17	2157/2000	65.4 @ 2000	57.1	25.3	201 lbf ft @	67.7	21.0	DDI
7PKXL04.4RE1	18	2157/2100	66.0 @ 2100	56.6	26.3	201 lbf ft @	67.7	21.0	DDI
7PKXL04.4RE1	19	2157/2200	67.0 @ 2200	56.0	27.3	201 lbf ft @	67.7	21.0	DDI
7PKXL04.4RE1	20	2460/1800	72.4 @ 1800	69.0	27.5				DDI
7PKXL04.4RE1	21	2446/1800	65.7 @ 1800	62.8	25.0				DDI
7PKXL04.4RE1	22	2466/1700	51 @ 1700	68.8	26.0	213 lbf ft @	59.6	16.8	DDI
7PKXL04.4RE1	23	2161/2300	81.8 @ 2300	61	30.8	217 @ 1400	68	20.9	DDI
7PKXL04.4RE1	24	2161/2400	83.1 @ 2400	62	32.6	217 @ 1400	68	20.9	DDI