

	PERKINS ENGINES COMPANY LTD.	EXECUTIVE ORDER U-R-022-0161
		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 engines and emission control systems 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)
2011	BPKXL04.4NL1	4.4	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Mechanical Direct Injection, Turbocharger, Smoke Puff Limiter			Crane, Loader, Tractor, Dozer, Pump, Compressor, Generator Set, 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 3	STD	N/A	N/A	4.7	5.0	0.40	20	15	50
56 ≤ kW < 75	Tier 3	STD	N/A	N/A	4.7	5.0	0.40	20	15	50
		CERT	--	--	4.6	1.0	0.34	18	2	25

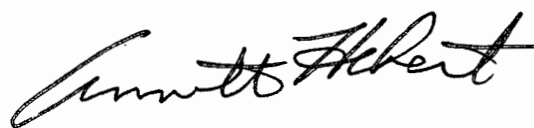
BE IT FURTHER RESOLVED: That certification to the standards in 13 CCR 2423(b)(1)(B) -Table 1b listed above has been permitted pursuant to Endnote 3 of the same table.

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 13 day of December 2010.



Annette Hebert, Chief
Mobile Source Operations Division

Attachment 1 of 1

Engine Model Summary Template

U-R-022-0161

11-30-2011

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	
BPKXL04.4NL1	1	3066/2200	99.9@2200	83.3	40.2	289@1400	97.2	29.8	TC DDI	SPL ↓
BPKXL04.4NL1	2	3066/2300	99.2@2300	81.5	41.1	289@1400	97.2	29.8	TC DDI	
BPKXL04.4NL1	3	3067/2300	96.6@2300	81.5	41.1	283@1400	97.2	29.8	TC DDI	
BPKXL04.4NL1	4	3067/2200	97.2@2200	83.3	40.2	283@1400	97.2	29.8	TC DDI	
BPKXL04.4NL1	5	2978/2300	93.9@2300	75.4	38.0	289@1400	94.8	29.1	TC DDI	
BPKXL04.4NL1	6	2978/2200	93.9@2200	77.3	37.3	289@1400	94.8	29.1	TC DDI	
BPKXL04.4NL1	7	2979/2300	91.2@2300	75.4	38.0	288@1400	94.8	29.1	TC DDI	
BPKXL04.4NL1	8	2979/2200	91.2@2200	77.3	37.3	288@1400	94.8	29.1	TC DDI	
BPKXL04.4NL1	9	3360/2300	88.5@2300	72.1	36.3	271@1400	88.7	27.2	TC DDI	
BPKXL04.4NL1	10	3360/2200	88.5@2200	73.8	35.6	271@1400	93.7	27.2	TC DDI	
BPKXL04.4NL1	11	3361/2300	85.8@2300	72.1	36.3	266@1400	93.5	27.2	TC DDI	
BPKXL04.4NL1	12	3361/2200	86.5@2200	73.8	35.6	266@1400	93.7	27.2	TC DDI	
BPKXL04.4NL1	13	2970/2400	83.1@2400	67.9	35.7	260@1400	83.2	25.5	TC DDI	
BPKXL04.4NL1	14	2970/2300	83.8@2300	68.9	34.7	260@1400	83.2	25.5	TC DDI	
BPKXL04.4NL1	15	2970/2200	83.8@2200	70.6	34.0	260@1400	83.2	25.5	TC DDI	
BPKXL04.4NL1	16	2971/2400	81.1@2400	67.9	35.7	254@1400	83.2	25.5	TC DDI	
BPKXL04.4NL1	17	2971/2300	81.1@2300	68.9	34.7	254@1400	83.2	25.5	TC DDI	
BPKXL04.4NL1	18	2971/2200	81.1@2200	70.6	34.0	254@1400	83.2	25.5	TC DDI	
BPKXL04.4NL1	19	3060/2400	77.1@2400	62.7	33.0	223@1400	71.8	22.0	TC DDI	
BPKXL04.4NL1	20	3060/2300	77.1@2300	63.2	31.9	223@1400	81.8	22.0	TC DDI	
BPKXL04.4NL1	21	3060/2200	77.1@2200	63.6	30.7	223@1400	71.8	22.0	TC DDI	
BPKXL04.4NL1	22	3061/2400	74.4@2400	62.7	33.0	217@1400	71.8	22.0	TC DDI	
BPKXL04.4NL1	23	3061/2300	74.4@2300	63.2	31.9	217@1400	71.8	22.0	TC DDI	
BPKXL04.4NL1	24	3061/2200	74.4@2200	63.6	30.7	217@1400	71.8	22.0	TC DDI	
BPKXL04.4NL1	25	3454/1800	85.8@1800	88.9	35.1	251@1800	88.9	35.1	TC DDI	
BPKXL04.4NL1	26	3593/2200	85.8@2200	73.8	35.6	271@1400	88.8	27.3	TC DDI	