California Environmental Protection Agency AIR RESOURCES BOARD	PERKINS ENGINES COMPANY LTD.	EXECUTIVE ORDER U-R-022-0125-1 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)
2009	9PKXL04.4NJ1	4.4	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Electronic Control Module, Turbocharger, Charge Air Cooler	Cranes, Loaders, 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
56 ≤ kW < 75	Tier 3	STD	N/A	N/A	4.7	5.0	0.40	20	15	50
75 ≤ kW < 130	Tier 3	STD	N/A	N/A	4.0	5.0	0.30	20	15	50
		CERT	--	--	3.7	1.8	0.21	7	2	11

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.

This Executive Order hereby supersedes Executive Order U-R-022-0125 dated January 14, 2009.

Executed at El Monte, California on this 26 day of August 2009.

Annette Hebert

Annette Hebert, Chief
Mobile Source Operations Division

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Engine Model Summary Template

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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
9PKXL04.4NJ1	1	3339/2200	144@2200	114.5	55.2	413@1400	131.7	40.4	DDI TAA ECM TC CAC
9PKXL04.4NJ1	2	2936/2000	145@2000	121.4	53.2	405@1400	125.7	38.6	DDI TAA ECM
9PKXL04.4NJ1	3	2932/2000	118@2000	100.5	44.1	391@1400	121.3	37.2	DDI TAA ECM
9PKXL04.4NJ1	4	2940/2000	136.8@2000	116.3	51.0	406@1400	126.4	38.8	DDI TAA ECM
9PKXL04.4NJ1	5	2934/2000	107.3@2000	91.0	40.0	354@1400	112.4	34.5	DDI TAA ECM
9PKXL04.4NJ1	6	3028/2200	142.4@2200	112.6	54.3	410@1400	127.4	39.1	DDI TAA ECM
9PKXL04.4NJ1	7	2894/2200	139.6@2200	112.6	54.3	406@1400	127.4	39.1	DDI TAA ECM
9PKXL04.4NJ1	8	3032/2200	136.8@2200	109.0	52.6	395@1400	122.8	37.7	DDI TAA ECM
9PKXL04.4NJ1	9	2908/2200	134@2200	109.0	52.6	391@1400	122.8	37.7	DDI TAA ECM
9PKXL04.4NJ1	10	3026/2200	129.4@2200	104.4	50.3	381@1400	118.4	36.3	DDI TAA ECM
9PKXL04.4NJ1	11	2900/2200	127@2200	104.4	50.3	376@1400	118.4	36.3	DDI TAA ECM
9PKXL04.4NJ1	12	3020/2200	125@2200	100.5	48.5	366@1400	114.7	35.2	DDI TAA ECM
9PKXL04.4NJ1	13	2898/2200	122@2200	100.5	48.5	361@1400	114.7	35.2	DDI TAA ECM
9PKXL04.4NJ1	14	3198/2200	122@2200	100.0	48.2	361@1400	113.9	35.0	DDI TAA ECM
9PKXL04.4NJ1	15	3197/2200	120@2200	100.0	48.2	358@1400	113.9	35.0	DDI TAA ECM
9PKXL04.4NJ1	16	3018/2200	117@2200	97.1	46.8	381@1400	119.4	36.6	DDI TAA ECM
9PKXL04.4NJ1	17	2939/2200	114@2200	97.1	46.8	376@1400	119.4	36.6	DDI TAA ECM
9PKXL04.4NJ1	18	3012/2200	110@2200	91.4	44.1	358@1400	111.8	34.3	DDI TAA ECM
9PKXL04.4NJ1	19	2906/2200	107@2200	91.4	44.1	354@1400	111.8	34.3	DDI TAA ECM
9PKXL04.4NJ1	20	3272/2400	126@2400	95.9	50.5	364@1400	114.6	35.2	DDI TAA ECM
9PKXL04.4NJ1	21	3273/2400	123@2400	95.9	50.5	361@1400	114.6	35.2	DDI TAA ECM
9PKXL04.4NJ1	22	3274/2400	141@2400	105.7	55.6	394@1400	123.9	38.0	DDI TAA ECM
9PKXL04.4NJ1	23	3275/2400	139@2200	105.7	51.0	391@1400	123.9	38.0	DDI TAA ECM
9PKXL04.4NJ1	24	3362/1800	116.9 kW 156.8@1800	138.5	54.6	457@1800	138.5	54.6	DDI TAA ECM
9PKXL04.4NJ1	25	3364/1500	131@1500	138	45.4	457@1500	138	45.4	DDI TAA ECM
9PKXL04.4NJ1	26	3366/1800	130@1800	120	47.4	379@1800	120	47.4	DDI TAA ECM

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Engine Model Summary Template

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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	
9PKXL04.4NJ1	27	3368/1500	108@1500	112	36.8	379@1500	112	36.8	DDI TAA ECM	TC CAC
9PKXL04.4NJ1	28	3260/2200	102.5@2200	83.8	40.4	348@1400	108.5	33.3	ECM DDI TAA	
9PKXL04.4NJ1	29	3261/2200	74.59 kW 100@2200	83.8	40.4	345/1400	108.5	33.3	ECM DDI TAA	
9PKXL04.4NJ1	30	3262/2200	117.3@2200	93.7	45.2	394/1400	120.4	36.9	ECM DDI TAA	
9PKXL04.4NJ1	31	3263/2200	114.9@2200	93.7	45.2	391/1400	120.4	36.9	ECM DDI TAA	
9PKXL04.4NJ1	32	3264/2200	126.9@2200	100	48.2	409@1400	124.2	38.1	ECM DDI TAA	
9PKXL04.4NJ1	33	3265/2200	124.4@2200	100	48.2	406@1400	124.2	38.1	ECM DDI TAA	
9PKXL04.4NJ1	34	3425/2220	123.1@2220	99.4	47.9	361@1400	113.1	34.7	ECM DDI TAA	
9PKXL04.4NJ1	35	3426/2500	124.7@2500	92.0	50.4	362@1500	107.9	35.5	ECM DDI TAA	
9PKXL04.4NJ1	36	3472/2400	126@2400	95.9	50.5	364@1400	114.6	35.2	DDI TAA ECM	
9PKXL04.4NJ1	37	3474/2400	141.3@2400	105.7	55.6	361@1400	123.9	38.0	DDI TAA ECM	
9PKXL04.4NJ1	38	3494/2200	122@2200	100	48.2	358@1400	113.9	35.0	DDI TAA ECM	