## PERKINS ENGINES COMPANY LTD.

EXECUTIVE ORDER U-R-022-0057 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)		
2004	4PKXL04.4RH2	4.4	Diesel	8000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
Direct Diesel Injection, Turbocharger and Engine Control Module			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	EMISSION STANDARD		EXHAUST (g/kw-hr)					OPACITY (%)		
CLASS	CATEGORY		HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
75 <u>&lt;</u> KW<130	Tier 2	STD	N/A	N/A	6.6	5.0	0.30	20	15	50
		CERT			5.9	0.7	0.27	4	2	6

**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 6th day of January 2004.

Allen Lyons, Chief

Mobile Source Operations Division

## **Engine Model Summary Form**

ATTACHMENT 1 OF 1

Perkins Engines Company Ltd. Manufacturer:

Engine category: Nonroad CI

EPA Engine Family 4PKXL04.4RH2

Mfr Family Name: 1104C-E44T OR 3054

**New Submission** Process Code:

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8.Fuel Rate: 9.Emission Control lbs/hr)@peak torque Device Per SAE J1930	ECM DDI TC							
8.Fuel Rate: (lbs/hr)@peak torque	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
7.Fuel Rate: mm/stroke@peak torque	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7
6.Torque @ RPM (SEA Gross)	282.5 @ 1400	282.5 @ 1400	288 5 @ 1400	288 5 @ 1400	284.6 @ 1400	284.6 @ 1400	290.6 @ 1400	290.6 @ 1400
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	45.2	46.4	45.2	46.4	45.2	46.4	45.2	46.4
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	85.0	83.7	85.0	83.7	85.0	83.7	85.0	83.7
3.BHP@RPM (SAE Gross)	110.6 @ 2400	110.6 @ 2500	114.0 @ 2400	114.0 @ 2500	112.6 @ 2400	112.6 @ 2500	115.3 @ 2400	115.3 @ 2500
2.Engine Model	2373/2400	2373/2500	2372/2400	2372/2500	6016/2400	6016/2500	6015/2400	6015/2500
1.Engine Code 2.Engine Model	-	7	က	4	5	9	7	œ