

 AIR RESOURCES BOARD	PERKINS ENGINES COMPANY LTD.	EXECUTIVE ORDER U-R-022-0026
		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-45-9;

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)
2002	2PKXL04.2AR1	4.232	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection			Agricultural 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 1	STD	N/A	9.2	N/A	N/A	N/A	20	15	50
		CERT	--	8.8	--	--	--	7	13	13

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 18th day of December 2001.


 R. B. Summerfield, Chief
 Mobile Source Operations Division

Engine Model Summary Form

Manufacturer: Perkins Engines Company Ltd
 Engine category: Nonroad CI
 EPA Engine Family: 2PKXL04.2AR1
 Mfr Family Name: AS EPA
 Process Code: New Submission

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
	5702/2000	73.9 @ 2000	66.2 @ 2000	29.0	205.8 @ 1400	67.4 @ 1400	20.5	DDI
	5702/2100	77.4 @ 2100	65.4 @ 2100	30.1	205.8 @ 1400	67.4 @ 1400	20.5	DDI
	5702/2200	78.2 @ 2200	63.7 @ 2200	30.7	205.8 @ 1400	67.4 @ 1400	20.5	DDI
	1906/2000	76.0 @ 2000	66.2 @ 2000	29.0	211.7 @ 1400	67.4 @ 1400	20.5	DDI
	1906/2100	79.8 @ 2100	65.4 @ 2100	30.1	211.7 @ 1400	67.4 @ 1400	20.5	DDI
	1906/2200	80.6 @ 2200	63.7 @ 2200	30.7	211.7 @ 1400	67.4 @ 1400	20.5	DDI
	5775/2300	81.8 @ 2300	63.3 @ 2300	31.9	215.4 @ 1400	67.4 @ 1400	20.5	DDI
	5775/2400	83.5 @ 2400	62.6 @ 2400	31.8	215.4 @ 1400	67.4 @ 1400	20.5	DDI
	1996/2300	85.4 @ 2300	63.3 @ 2300	31.9	221.3 @ 1400	67.4 @ 1400	20.5	DDI
	1996/2400	85.8 @ 2400	62.6 @ 2400	31.8	221.3 @ 1400	67.4 @ 1400	20.5	DDI
	5786/2400	84.5 @ 2400	62.6 @ 2400	31.8	217.5 @ 1400	67.4 @ 1400	20.5	DDI
	5791/2400	81.8 @ 2400	62.6 @ 2400	31.8	212.0 @ 1400	67.4 @ 1400	20.5	DDI
	5789/2100	76.4 @ 2100	65.4 @ 2100	30.1	212.4 @ 1400	67.4 @ 1400	20.5	DDI
	5790/2100	74.4 @ 2100	65.4 @ 2100	30.1	206.5 @ 1400	67.4 @ 1400	20.5	DDI
	Caterpillar 3054	76.0 @ 2000	66.2 @ 2000	29.0	211.7 @ 1400	67.4 @ 1400	20.5	DDI
	Caterpillar 3054	79.8 @ 2100	65.4 @ 2100	30.1	211.7 @ 1400	67.4 @ 1400	20.5	DDI
	Caterpillar 3054	80.6 @ 2200	63.7 @ 2200	30.7	211.7 @ 1400	67.4 @ 1400	20.5	DDI
	1992/2200	75.1 @ 2200	57.5 @ 2200	27.7	213.9 @ 1400	66.3 @ 1400	20.4	DDI
	5772/2200	72.5 @ 2200	57.5 @ 2200	27.7	213.9 @ 1400	66.3 @ 1400	20.4	DDI
	2049/1700	68.4 @ 1700	67.5 @ 2200	25.2	232.0 @ 1150	76.0 @ 1150	19.0	DDI
	2049/1800	66.0 @ 1800	66.0 @ 1800	26.2	232.0 @ 1150	76.0 @ 1150	19.0	DDI
	2046/1800	71.0 @ 1800	65.0 @ 1800	26.0	207.3 @ 1800	65.0 @ 1800	26.0	DDI
	2046/1500	61.7 @ 1500	70.0 @ 1500	23.1	216.0 @ 1500	70.0 @ 1500	23.1	DDI
	5787/2300	83.1 @ 2400	62.6 @ 2400	31.8	215.4 lbf ft @	67.4 @ 1400	20.5	DDI
	5787/2400	82.5 @ 2300	63.3 @ 2300	31.9	215.4 lbf ft @	67.4 @ 1400	20.5	DDI