

## PERKINS ENGINES COMPANY LTD.

EXECUTIVE ORDER U-R-022-0129

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	9PKXL04.4NM2	4.4	Diesel	8000			
SPECIAL	FEATURES & EMISSION (	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION				
, (	Direct Diesel Injection, Tu Charge Air Cooler, Smoke	rbocharger, 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	EMISSION		Ε	XHAUST (g/kw-l	OPACITY (%)					
CLASS	STANDARD CATEGORY		нс	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
		CERT			4.0	0.7	0.25	18	4	29

**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

Annette Hebert, Chief

Mobile Source Operations Division

## Engine Model Summary Template

		N.									
	8.Fuel Rate: 9.Emission Control (lbs/hr)@peak torqueDevice Per SAE J1930	TC DDITHAGAC SI									¥
U-R-022-0129		₩_	<b>¥</b>	¥	DDI TAN	A¥ Ida	DDI TAKA	DDI TAN	DDI TAM	DDI TAN	DDI TAN
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02	Rate: ak tom		29.6	9.	.7	ဖ	9.	-	9	.7	
8	8.Fuel Rate: hr)@peak tor	30.1	29	29.6	29.7	28.6	28.6	30.1	28.6	28.7	30.1
7											
	7.Fuel Rate: n/stroke@pe torque	98.1	9.96	9.96	96.7	93.3	93.3	98.1	93.3	93.6	98.1
	7.Fuel Rate: mm/stroke@peak torque	6	53	S	53	6	<b>.</b>	5	တ	တ	6
	RPM	00	00	8	80	8	8	8	8	8	00
	6.Torque @ RPM (SEA Gross)	304@1400	302@1400	302@1400	302@1400	285@1400	285@1400	295@1400	295@1400	291@1400	307@1400
		30	30	က	30	78	28	29	29	28	30
_	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)										
12	5.Fuel Rate: bs/hr) @ peak Hi (for diesels only)	40.7	40.3	39.6	38.2	37.5	36.4	39.5	37.4	38.4	40.1
Page	4.Fuel Rate: m/stroke @ peak HP (for dlesel only)		<b>~</b>	<b>.</b>		-	10			_	_
8	4.Fuel Rate: ustroke @ peak (for dlesel only)	84.4	76.6	78.6	79.2	74.4	75.5	82	83.5	76.1	83.1
(1	mm/s A)										
4	gRPM sross)	2972/2200 <sup>74,</sup> \$100.4@2200	99.9@2400	99.9@2300	99.9@2200	3055/230062 ,0 91.2@2300	91.2@2200	99.9@2200	99.9@2200	93.9@2300	100.4@2200
attachnent	3.BHP@RPM (SAE Gross)	100.4	99.9@	99.9@	99.9@	91.2@	91.2@	99.9@	99.9@	93.9@	100.4
the part		74,8				0,29					İ
$\mathcal{B}$	e Mo	72200	3056/2400	3056/2300	3056/2200	72300	3055/2200	3496/2200	3500/2200	3500/2300	3499/2200
	.Engir	2972	3056	3056	3056	3055	3025	3496	3500	3500	3499
	de 2										
	ine Co	-	7	က	4	6	5	æ	=	12	13
	1.Engi					1 100		1 2 3		a deliberation of a control	the control of the co
	Engine Family 1.Engine Code 2.Engine Model	M2	27	M2	ΜZ	M2	ΝZ	ΝZ	M2	ΜZ	M2
	ie Fan	34.4NI	74.4Ni	74.4N	04.4N	04.4N	74.4NI	74.4N	74.4Ni	74.4NI	74.4N
	Engin	9PKXL04.4NM2	9PKXL04.4NM2	9PKXL04.4NM2	9PKXL04.4NM2	9PKXL04.4NM2	9PKXL04.4NM2	9PKXL04.4NM2	9PKXL04.4NM2	9PKXL04.4NM2	9PKXL04.4NM2
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