

## PERKINS ENGINES COMPANY LTD.

EXECUTIVE ORDER U-R-022-0304 New Off-Road

Compression-Ignition Engines

Pursuant to the authority vested in California 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-19-095;

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)				
2022	NPKXL07.0VL1	7.01	Diesel	8000				
SPECIAL	. FEATURES & EMISSION C	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION					
Control M Trap Oxi	c Direct Injection, Turbo Module, Diesel Oxidation dizer, Exhaust Gas Red er, Selective Catalytic I Ammonia Oxidation (	n Catalyst, Periodic circulation, Charge Reduction – Urea,	Crane, Loaders, Tractor, Dozer, Pum Generator Set	np, Compressor,				

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for non-methane hydrocarbon (NMHC), 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			ı	EXHAUST (g/kw-l	OPACITY (%)				
	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
75 ≤ kW ≤ 560	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		FEL	N/A	N/A	N/A	N/A	0.01	N/A	N/A	N/A
		CERT	0.01	0.37		0.04	0.004	1	1	

**BE IT FURTHER RESOLVED:** That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

**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).

**BE IT FURTHER RESOLVED:** That for the listed engine models which include engines from different power categories in the same engine family, the manufacturer is complying with the more stringent set of standards from the 130 ≤ kW ≤ 560 power category in conformance with the incorporated Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for New 2011 and Later Tier 4 Off-Road Compression Ignition Engines, Part 1-D" adopted October 20, 2005 and last amended October 25, 2012.



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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 on this <u>/3th</u> day of December 2021.

Allen Lyons, Chief

Emissions Certification and Compliance Division

Attachment: Engine Models EO #: U-R-022-0304 Family: NPKXL07.0VL1 Attachment Last Revised: 11/9/2021

					Displacement -		Peak Power -	Peak Power -	Peak Power -	Peak Power -		Peak Torque -	Peak Torque -	Peak Torque -	Peak Torque -				
Model	Code	Trim	Config	Displacement	Units	Peak Power	Units	Speed (rpm)	Fueling	Fuel Units	Peak Torque	Units	Speed (rpm)	Fuel	Fuel Units	OBD	GHG	Special	Notes
1206J-E70TA/C7.1	6186/2200	N/A	16	7.01	Liters	202	horsepower	2200	76.8	lb/hr	669	lb-ft	1400	60.2	lb/hr	N/A	N/A	N/A	N/A
1206J-E70TA/C7.1	4906/2200	N/A	16	7.01	Liters	202	horsepower	2200	76.4	lb/hr	641	lb-ft	1400	57.9	lb/hr	N/A	N/A	N/A	N/A
1206J-E70TA/C7.1	4908/2200	N/A	16	7.01	Liters	174	horsepower	2200	63.9	lb/hr	621	lb-ft	1400	54.6	lb/hr	N/A	N/A	N/A	N/A
1206J-E70TA/C7.1	4930/1800	N/A	16	7.01	Liters	188	horsepower	1800	66.5	lb/hr	664	lb-ft	1400	59.7	lb/hr	N/A	N/A	N/A	N/A
1206J-E70TA/C7.1	4932/1800	N/A	16	7.01	Liters	168	horsepower	1800	59.1	lb/hr	601	lb-ft	1400	54.8	lb/hr	N/A	N/A	N/A	N/A
1206J-E70TA/C7.1	4934/2200	N/A	16	7.01	Liters	187	horsepower	2200	71.1	lb/hr	667	lb-ft	1400	60.2	lb/hr	N/A	N/A	N/A	N/A
1206J-E70TA/C7.1	5098/2000	N/A	16	7.01	Liters	176	horsepower	2000	65.7	lb/hr	637	lb-ft	1400	56.6	lb/hr	N/A	N/A	N/A	N/A
1206J-E70TA/C7.1	4904/2200	N/A	16	7.01	Liters	174	horsepower	2200	66.8	lb/hr	621	lb-ft	1400	54.8	lb/hr	N/A	N/A	N/A	N/A
1206J-E70TA/C7.1	6270/2200	N/A	16	7.01	Liters	173	horsepower	2200	64.7	lb/hr	642	lb-ft	1400	56.9	lb/hr	N/A	N/A	N/A	N/A