

 <b>CALIFORNIA</b> AIR RESOURCES BOARD	<b>PERKINS ENGINES COMPANY LTD.</b>	<b>EXECUTIVE ORDER U-R-022-0298</b> New Off-Road Compression-Ignition Engines
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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	NPKXL.507F1V	0.507	Diesel	3000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Indirect Diesel Injection			Mini-Excavator	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) 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 STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
kW < 8	Tier 4 Final	STD	N/A	N/A	7.5	8.0	0.40	20	15	50
		CERT	--	--	6.7	2.9	0.24	10	6	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.**

Executed on this 22nd day of November 2021.



Allen Lyons, Chief  
 Emissions Certification and Compliance Division

**Attachment: Engine Models**

**EO #:** U-R-022-0298

**Family:** NPKXL507F1V

**Attachment Last Revised:** 10/8/2021

Model	Code	Trim	Config	Displacement	Displacement -		Peak Power -		Peak Power - Speed (rpm)	Peak Power - Fueling	Peak Power - Fuel		Peak Torque - Units	Peak Torque - Speed (rpm)	Peak Torque - Fuel	Peak Torque - Fuel Units		OBD	GHG	Special	Notes
					Units	Liters	Peak Power	Units			Units	Peak Torque				Units	Fuel Units				
402F-05	6390/2600	N/A	I2	0.5	Liters	9.0	horsepower	2600	3.7	lb/hr	19.0	lb-ft	2000	2.9	lb/hr	N/A	N/A	N/A	N/A		
6701	E672L-F	N/A	I2	0.5	Liters	9.0	horsepower	2600	3.7	lb/hr	19.0	lb-ft	2000	2.9	lb/hr	N/A	N/A	N/A	N/A		