

## PERKINS ENGINES COMPANY LTD.

EXECUTIVE ORDER U-R-022-0314

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	NPKXL02.2IR1	2.22	Diesel	8000				
SPECIAL	FEATURES & EMISSION C	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION					
Control M	c Direct Injection, Turbo lodule, Diesel Oxidation dizer, Exhaust Gas Red Air Cooler	n Catalyst, Periodic	Welder, Mini-Excavato	or				

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	EMISSION			I	EXHAUST (g/kw-ł		OPACITY (%)			
POWER CLASS	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
19 ≤ kW < 56	Tier 4 Final	STD	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		CERT			3.5	1.3	0.003			

**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 37 ≤ kW < 56 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.

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 14th day of December 2021.

Allen Lyons, Chief

**Emissions Certification and Compliance Division** 

Attachment: Engine Models EO #: U-R-022-0314 Family: NPKXL02.2IR1 Attachment Last Revised: 11/4/2021

				Displacement -		Peak Power -	Peak Power -	Peak Power -	Peak Power - Fuel		Peak Torque -	Peak Torque -	Peak Torque -	Peak Torque -					
Model	Code	Trim	Config	Displacement	Units	Peak Power	Units	Speed (rpm)	Fueling	Units	Peak Torque	Units	Speed (rpm)	Fuel	Fuel Units	OBD	GHG	Special	Notes
404J-E22TA/C2.2	5076/2800	N/A	14	2.2	Liters	74	horsepower	2800	29.1	lb/hr	199	lb-ft	1600	20.7	lb/hr	N/A	N/A	N/A	N/A
404J-E22TA/C2.2	6182/2800	N/A	14	2.2	Liters	60	horsepower	2800	24.3	lb/hr	173	lb-ft	1600	17.6	lb/hr	N/A	N/A	N/A	N/A
404J-E22TA/C2.2	6184/2800	N/A	14	2.2	Liters	67	horsepower	2800	26.3	lb/hr	186	lb-ft	1600	18.9	lb/hr	N/A	N/A	N/A	N/A
404J-E22TA/C2.2	6792/1800	N/A	14	2.2	Liters	49	horsepower	1800	16.9	lb/hr	142	lb-ft	1800	16.9	lb/hr	N/A	N/A	N/A	N/A