



**PERKINS ENGINES COMPANY
LIMITED**

EXECUTIVE ORDER U-R-022-0296
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	NPKXL02.2TD7	1.66, 2.22	Diesel	5000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Control Module, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Electronic Direct Injection, Turbocharger			Loaders, Tractor, Compressor, Mini Hydraulic Excavators, Material Handling Equipment, Access Platforms	

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 STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
19 ≤ kW < 37	Tier 4 Final	STD	N/A	N/A	4.7	5.5	0.03	N/A	N/A	N/A
		FEL	N/A	N/A	N/A	N/A	0.05	N/A	N/A	N/A
		CERT	--	--	4.5	1.3	0.03	--	--	--

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).

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-022-0296	Family:	NPKXL02.2TD7	Attachment Last Revised:	9/29/2021										
Model	Code	Trim	Config	Displacement	Displacement - Units	Peak Power	Peak Power - Units	Peak Power - Speed (rpm)	Peak Power - Fueling	Peak Power - Fuel Units	Peak Torque	Peak Torque - Units	Peak Torque - Speed (rpm)	Peak Torque - Fuel	Peak Torque - Fuel Units	OBD	GHG	Special	Notes
EQ49DI/2800ABT	404F-E22T	N/A	I4	2.22	Liters	48.9	horsepower	2800	20.8	lb/hr	165	lb-ft	1800	15.3	lb/hr	N/A	N/A	N/A	N/A
EQ49DI/2800ABT	C2.2	N/A	I4	2.22	Liters	48.9	horsepower	2800	20.8	lb/hr	165	lb-ft	1800	15.3	lb/hr	N/A	N/A	N/A	N/A
EW40DI/2800ABT	403F-E17T	N/A	I3	1.66	Liters	38.9	horsepower	2800	16.5	lb/hr	120	lb-ft	1800	11.2	lb/hr	N/A	N/A	N/A	N/A
EW40DI/2800ABT	C1.7	N/A	I3	1.66	Liters	38.9	horsepower	2800	16.5	lb/hr	120	lb-ft	1800	11.2	lb/hr	N/A	N/A	N/A	N/A
6743/2600	404F-E22T	N/A	I4	2.22	Liters	48.3	horsepower	2600	19.1	lb/hr	155.4	lb-ft	1600	12.3	lb/hr	N/A	N/A	N/A	N/A
6743/2600	C2.2	N/A	I4	2.22	Liters	48.3	horsepower	2600	19.1	lb/hr	155.4	lb-ft	1600	12.3	lb/hr	N/A	N/A	N/A	N/A
6748/2600	403F-E17T	N/A	I3	1.66	Liters	40.2	horsepower	2600	16.2	lb/hr	116	lb-ft	1600	9.9	lb/hr	N/A	N/A	N/A	N/A
6752/2600	403F-E17T	N/A	I3	1.66	Liters	36.2	horsepower	2600	15	lb/hr	116	lb-ft	1600	9.9	lb/hr	N/A	N/A	N/A	N/A