



CUMMINS INC.

EXECUTIVE ORDER U-R-002-0844
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)
2023	PCEXL04.5AAJ	4.5	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Control Module, Electronic Direct Injection, Turbocharger, Charge Air Cooler, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst			Generator Set	

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
75 ≤ kW ≤ 560	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.01	0.21	--	0.00	0.01	--	--	--

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.

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 17th day of August 2022.

Robin U. Lang, Chief
Emissions Certification and Compliance Division

Attachment: Engine Models

EO #: U-R-002-0844

Family: PCEXL04.SAAJ

Attachment Last Revised: 8/2/2022

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 Units	OBD	GHG	Special	Notes	
QSB5	OB1		I4	4.5	Liters	180	horsepower	1500	159	mm3/stroke	864	lb-ft	1500	95.7					lb/hr
QSB5-G12	OB1		I4	4.5	Liters	180	horsepower	1500	159	mm3/stroke	864	lb-ft	1500	95.7					lb/hr
QSB5	OB1		I4	4.5	Liters	206	horsepower	1800	154	mm3/stroke	827	lb-ft	1800	111.5					lb/hr
QSB5-G12	OB1		I4	4.5	Liters	206	horsepower	1800	154	mm3/stroke	827	lb-ft	1800	111.5					lb/hr
QSB5	OB2		I4	4.5	Liters	147	horsepower	1500	126	mm3/stroke	717	lb-ft	1500	76.7					lb/hr
QSB5-G11	OB2		I4	4.5	Liters	147	horsepower	1500	126	mm3/stroke	717	lb-ft	1500	76.7					lb/hr
QSB5	OB2		I4	4.5	Liters	169	horsepower	1800	120	mm3/stroke	688	lb-ft	1800	88.2					lb/hr
QSB5-G11	OB2		I4	4.5	Liters	169	horsepower	1800	120	mm3/stroke	688	lb-ft	1800	88.2					lb/hr
QSB5	OB3		I4	4.5	Liters	106	horsepower	1500	88	mm3/stroke	518	lb-ft	1500	53.8					lb/hr
QSB5-G10	OB3		I4	4.5	Liters	106	horsepower	1500	88	mm3/stroke	518	lb-ft	1500	53.8					lb/hr
QSB5	OB3		I4	4.5	Liters	124	horsepower	1800	86	mm3/stroke	506	lb-ft	1800	63.2					lb/hr
QSB5-G10	OB3		I4	4.5	Liters	124	horsepower	1800	86	mm3/stroke	506	lb-ft	1800	63.2					lb/hr