



CUMMINS INC.

EXECUTIVE ORDER U-R-002-0803
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	NCEXL23.0AAD	23.0	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Control Module, Electronic Direct Injection, Turbocharger, Selective Catalytic Reduction - Urea, Charge Air Cooler, Ammonia Oxidation Catalyst			Crane, Pump, Mining Haul Truck, Blender	

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
ELSE > 560 kW	Tier 4 Final	STD	0.19	3.5	N/A	3.5	0.04	N/A	N/A	N/A
		CERT	0.02	2.3	--	0.1	0.02	--	--	--

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 21st day of November 2021.

Allen Lyons, Chief
Emissions Certification and Compliance Division

ent: Engine Models

EO #: U-R-002-0803 **Family:** NCEXL23.0AAD **Attachment Last Rev:** 8/26/2021

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
QSK23	OK1		6	23	Liters	1000	horsepower	1800	542	mm3/stroke	3005	lb-ft	1600	546	mm3/stroke	N/A	N/A	N/A	N/A
QSK23	OK2		6	23	Liters	950	horsepower	1800	533	mm3/stroke	2785	lb-ft	1400	509	mm3/stroke	N/A	N/A	N/A	N/A
QSK23	OK3		6	23	Liters	860	horsepower	1800	477	mm3/stroke	2785	lb-ft	1400	509	mm3/stroke	N/A	N/A	N/A	N/A
QSK23	OK4		6	23	Liters	760	horsepower	1800	422	mm3/stroke	2558	lb-ft	1350	469	mm3/stroke	N/A	N/A	N/A	N/A
QSK23	OK8		6	23	Liters	760	horsepower	2100	378	mm3/stroke	2558	lb-ft	1350	463	mm3/stroke	N/A	N/A	N/A	N/A
QSK23	OK5		6	23	Liters	1050	horsepower	2100	518	mm3/stroke	2897	lb-ft	1400	518	mm3/stroke	N/A	N/A	N/A	N/A
QSK23	OK6		6	23	Liters	950	horsepower	2100	467	mm3/stroke	2897	lb-ft	1400	525	mm3/stroke	N/A	N/A	N/A	N/A
QSK23	OK7		6	23	Liters	860	horsepower	2100	420	mm3/stroke	2785	lb-ft	1400	498	mm3/stroke	N/A	N/A	N/A	N/A