



CUMMINS INC.

EXECUTIVE ORDER U-R-002-0790  
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	NCEXL03.8AAB	3.8	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Control Module, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Electronic Direct Injection, Turbocharger, Charge Air Cooler, Selective Catalytic Reduction – Urea, Ammonia Oxidation Catalyst			Crane, Loaders, Tractor, Dozer, Pump, Compressor, Compactor, Forklift, Telehandler	

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
56 ≤ kW < 130	Tier 4 Final	STD	0.19	0.40	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.07	0.25	--	0.03	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).

**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 56 ≤ kW < 130 power categories 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 21st day of November 2021.

Allen Lyons, Chief  
Emissions Certification and Compliance Division

**Attachment: Engine Models**

**EO #:** U-R-002-0790

**Family:** NCEXL03.8AAB

**Attachment Last Revised:** 7/9/2021

Model	Code	Trim	Config	Displacement	Displacement - Units	Peak Power Peak Power	Peak Power - Units	Peak Power - Speed (rpm)	Peak Power - Fueling	Peak Power - Fuel Units	Peak Torque Peak Torque	Peak Torque - Units	Peak Torque - Speed (rpm)	Peak Torque - Fuel	Peak Torque - Fuel Units	OBD	GHG	Special	Notes
QSF3.8	OF1	N/A	I4	3.8	Liters	130	horsepower	2500	95	mm3/stroke	360	lb-ft	1600	110	mm3/stroke	N/A	N/A	N/A	N/A
QSF3.8	OF2	N/A	I4	3.8	Liters	120	horsepower	2500	92	mm3/stroke	360	lb-ft	1600	110	mm3/stroke	N/A	N/A	N/A	N/A
QSF3.8	OF3	N/A	I4	3.8	Liters	110	horsepower	2500	76	mm3/stroke	300	lb-ft	1600	92	mm3/stroke	N/A	N/A	N/A	N/A
QSF3.8	OF4	N/A	I4	3.8	Liters	130	horsepower	2200	95	mm3/stroke	360	lb-ft	1600	110	mm3/stroke	N/A	N/A	N/A	N/A
QSF3.8	OF5	N/A	I4	3.8	Liters	120	horsepower	2200	94	mm3/stroke	360	lb-ft	1600	110	mm3/stroke	N/A	N/A	N/A	N/A
QSF3.8	OF6	N/A	I4	3.8	Liters	100	horsepower	2200	83	mm3/stroke	300	lb-ft	1600	92	mm3/stroke	N/A	N/A	N/A	N/A
QSF3.8	OF7	N/A	I4	3.8	Liters	100	horsepower	2200	83	mm3/stroke	300	lb-ft	1600	92	mm3/stroke	N/A	N/A	N/A	N/A