



CUMMINS INC.

EXECUTIVE ORDER U-R-002-0798
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	NCEXL50.0AAF	38.0, 50.0	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, Loaders, Tractor, Dozer, Pump, Compressor, Excavator	

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	3.2	--	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 20th day of October 2021.

Allen Lyons, Chief
Emissions Certification and Compliance Division

Attachment: Engine Models

EO #:

U-R-002-0798

Family:

NCEXL50.0AAF

Attachment Last Rev

9/14/2021

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
QSK50	OK1		16	50	Liters	2500	horsepower	1900	506	mm3/stroke	7081	lb-ft	1500	490	mm3/stroke				
QSK50	OK2		16	50	Liters	2300	horsepower	1900	464	mm3/stroke	6514	lb-ft	1500	449	mm3/stroke				
QSK50	OK3		16	50	Liters	2250	horsepower	1900	455	mm3/stroke	6300	lb-ft	1500	435	mm3/stroke				
QSK50	OK4		16	50	Liters	2000	horsepower	1900	405	mm3/stroke	5805	lb-ft	1500	400	mm3/stroke				
QSK50	OK5		16	50	Liters	1675	horsepower	1800	352	mm3/stroke	5590	lb-ft	1500	371	mm3/stroke				
QSK50	OK6		16	50	Liters	1500	horsepower	1800	322	mm3/stroke	4842	lb-ft	1400	340	mm3/stroke				
QSK50	OK7		16	50	Liters	1600	horsepower	1800	343	mm3/stroke	5044	lb-ft	1500	353	mm3/stroke				
QSK50	OK8		16	50	Liters	1575	horsepower	1900	328	mm3/stroke	7389	lb-ft	1300	381	mm3/stroke				
QSK50	OK9		16	50	Liters	1600	horsepower	1800	346	mm3/stroke	6839	lb-ft	1500	355	mm3/stroke				
QSK50	OK10		16	50	Liters	1500	horsepower	1800	324	mm3/stroke	6570	lb-ft	1400	340	mm3/stroke				
QSK50	OK11		16	50	Liters	1900	horsepower	1800	401	mm3/stroke	7900	lb-ft	1700	414	mm3/stroke				
QSK50	OK12		16	50	Liters	1500	horsepower	1800	324	mm3/stroke	4846	lb-ft	1400	340	mm3/stroke				
QSK50	OK13		16	50	Liters	1600	horsepower	1800	346	mm3/stroke	5044	lb-ft	1500	355	mm3/stroke				
QSK38	OK14		12	38	Liters	1350	horsepower	1800	404	mm3/stroke	4320	lb-ft	1500	401	mm3/stroke				
QSK38	OK15		12	38	Liters	1260	horsepower	1800	376	mm3/stroke	4054	lb-ft	1400	371	mm3/stroke				
QSK38	OK16		12	38	Liters	1086	horsepower	1800	329	mm3/stroke	3590	lb-ft	1350	328	mm3/stroke				