CALIFORNIA AIR RESOURCES BOARD	**CUMMINS INC.**	**EXECUTIVE ORDER U-R-002-0814** 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	NCEXL12.0AAA	12.0	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Engine Control Module, Periodic Trap Oxidizer, Diesel Oxidation Catalyst, Selective Catalytic Reduction – Urea, Ammonia Oxidation Catalyst	Crane, Loader, Tractor, Dozer, Pump, Compressor

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
130 ≤ 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	0.17	--	0.1	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).

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 29th day of December 2021.

Allen Lyons, Chief
Emissions Certification and Compliance Division\

Attachment: Engine Models **EO #:** U-R-002-0814 **Family:** NCEXL12.0AAA **Attachment Last Revised:** 12/1/2021

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
X12	LX1		I6	12	Liters	460	horsepower	2100	229	mm3/stroke	1752	lb-ft	1400	324	mm3/stroke				
X12	LX2		I6	12	Liters	460	horsepower	2100	235	mm3/stroke	1696	lb-ft	1400	311	mm3/stroke				
X12	LX3		I6	12	Liters	430	horsepower	2100	215	mm3/stroke	1696	lb-ft	1400	298	mm3/stroke				
X12	LX4		I6	12	Liters	400	horsepower	2100	201	mm3/stroke	1600	lb-ft	1400	284	mm3/stroke				
X12	LX5		I6	12	Liters	400	horsepower	2100	201	mm3/stroke	1500	lb-ft	1400	271	mm3/stroke				
X12	LX6		I6	12	Liters	400	horsepower	2100	201	mm3/stroke	1400	lb-ft	1400	253	mm3/stroke				
X12	LX7		I6	12	Liters	375	horsepower	2100	189	mm3/stroke	1450	lb-ft	1400	262	mm3/stroke				
X12	LX8		I6	12	Liters	350	horsepower	2100	178	mm3/stroke	1350	lb-ft	1400	242	mm3/stroke				
X12	LX9		I6	12	Liters	335	horsepower	2100	171	mm3/stroke	1250	lb-ft	1400	222	mm3/stroke				
X12	LX10		I6	12	Liters	355	horsepower	2000	181	mm3/stroke	1373	lb-ft	1400	247	mm3/stroke				
X12	LX11		I6	12	Liters	513	horsepower	1900	275	mm3/stroke	1696	lb-ft	1400	311	mm3/stroke				
X12	LX12		I6	12	Liters	435	horsepower	1900	225	mm3/stroke	1600	lb-ft	1400	284	mm3/stroke				
X12	LX13		I6	12	Liters	375	horsepower	1900	194	mm3/stroke	1359	lb-ft	1400	242	mm3/stroke				
X12	LX14		I6	12	Liters	500	horsepower	1800	281	mm3/stroke	1600	lb-ft	1400	292	mm3/stroke				
X12	LX15		I6	12	Liters	475	horsepower	1800	252	mm3/stroke	1600	lb-ft	1400	284	mm3/stroke				
X12	LX16		I6	12	Liters	450	horsepower	1800	239	mm3/stroke	1600	lb-ft	1400	284	mm3/stroke				
X12	LX17		I6	12	Liters	430	horsepower	1800	228	mm3/stroke	1500	lb-ft	1400	271	mm3/stroke				
X12	LX18		I6	12	Liters	400	horsepower	1800	212	mm3/stroke	1450	lb-ft	1400	262	mm3/stroke				
X12	LX19		I6	12	Liters	375	horsepower	1800	198	mm3/stroke	1350	lb-ft	1400	242	mm3/stroke				
X12	LX20		I6	12	Liters	350	horsepower	1800	187	mm3/stroke	1275	lb-ft	1400	228	mm3/stroke				
X12	LX21		I6	12	Liters	335	horsepower	2100	195	mm3/stroke	1120	lb-ft	1400	171	mm3/stroke				
X12	LX22		I6	12	Liters	440	horsepower	2100	240	mm3/stroke	1471	lb-ft	1400	223	mm3/stroke				
X12	LX23		I6	12	Liters	460	horsepower	2100	235	mm3/stroke	1696	lb-ft	1400	311	mm3/stroke				
X12	LX24		I6	12	Liters	500	horsepower	1800	281	mm3/stroke	1600	lb-ft	1400	292	mm3/stroke				
X12	LX25		I6	12	Liters	513	horsepower	1900	275	mm3/stroke	1696	lb-ft	1400	311	mm3/stroke				
X12	LX26		I6	12	Liters	430	horsepower	2100	215	mm3/stroke	1696	lb-ft	1400	298	mm3/stroke				
X12	LX27		I6	12	Liters	440	horsepower	2100	240	mm3/stroke	1471	lb-ft	1400	223	mm3/stroke				
X12	LX28		I6	12	Liters	335	horsepower	2100	195	mm3/stroke	1120	lb-ft	1400	171	mm3/stroke				
X12	LX29		I6	12	Liters	335	horsepower	2100	171	mm3/stroke	1250	lb-ft	1400	222	mm3/stroke				
X12	LX30		I6	12	Liters	350	horsepower	2100	178	mm3/stroke	1350	lb-ft	1400	242	mm3/stroke				
X12	LX31		I6	12	Liters	375	horsepower	2100	189	mm3/stroke	1450	lb-ft	1400	262	mm3/stroke				
X12	LX32		I6	12	Liters	400	horsepower	2100	201	mm3/stroke	1600	lb-ft	1400	284	mm3/stroke				
X12	LX33		I6	12	Liters	400	horsepower	2100	201	mm3/stroke	1500	lb-ft	1400	271	mm3/stroke				
X12	LX34		I6	12	Liters	400	horsepower	2100	201	mm3/stroke	1400	lb-ft	1400	253	mm3/stroke				
X12	LX35		I6	12	Liters	355	horsepower	2000	181	mm3/stroke	1373	lb-ft	1400	247	mm3/stroke				
X12	LX36		I6	12	Liters	375	horsepower	1900	194	mm3/stroke	1359	lb-ft	1400	242	mm3/stroke				
X12	LX37		I6	12	Liters	435	horsepower	1900	225	mm3/stroke	1600	lb-ft	1400	284	mm3/stroke				
X12	LX38		I6	12	Liters	350	horsepower	1800	187	mm3/stroke	1275	lb-ft	1400	228	mm3/stroke				
X12	LX39		I6	12	Liters	375	horsepower	1800	198	mm3/stroke	1350	lb-ft	1400	242	mm3/stroke				
X12	LX40		I6	12	Liters	400	horsepower	1800	212	mm3/stroke	1450	lb-ft	1400	262	mm3/stroke				
X12	LX41		I6	12	Liters	430	horsepower	1800	228	mm3/stroke	1500	lb-ft	1400	271	mm3/stroke				
X12	LX42		I6	12	Liters	450	horsepower	1800	239	mm3/stroke	1600	lb-ft	1400	284	mm3/stroke				
X12	LX43		I6	12	Liters	475	horsepower	1800	252	mm3/stroke	1600	lb-ft	1400	284	mm3/stroke				
X12	LX44		I6	12	Liters	460	horsepower	2100	229	mm3/stroke	1752	lb-ft	1400	324	mm3/stroke				