

	CUMMINS INC.	EXECUTIVE ORDER U-R-002-0781-1 New Off-Road Compression-Ignition Engines
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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)
2021	MCEXL15.0AAL	15.0	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Periodic Trap Oxidizer, Selective Catalytic Reduction – Urea, Ammonia Oxidation Catalyst			Crane, Loader, Tractor, Dozer, Pump, Compressor and 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
130 ≤ kW ≤ 560	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.002	0.24	--	0.00	0.004	--	--	--

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 hereby supersedes Executive Order U-R-002-0781 dated December 9, 2020.

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 11th day of March 2021.



Allen Lyons, Chief
Emissions Certification and Compliance Division

Attachment: Engine Models

EO #: U-R-002-0781-1

Family: MCEXL15.0AAL

Attachment Last Revised: 2/16/2021

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
X15	43869:FR111120	N/A	I6	15	Liters	500	horsepower	1800	279	mm3/stroke	1600	lb-ft	1400	299	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111119	N/A	I6	15	Liters	525	horsepower	1800	293	mm3/stroke	1750	lb-ft	1400	325	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111118	N/A	I6	15	Liters	550	horsepower	1800	308	mm3/stroke	1750	lb-ft	1400	325	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111117	N/A	I6	15	Liters	575	horsepower	1800	322	mm3/stroke	1950	lb-ft	1400	372	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111116	N/A	I6	15	Liters	600	horsepower	1800	338	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111115	N/A	I6	15	Liters	625	horsepower	1800	354	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111114	N/A	I6	15	Liters	450	horsepower	2100	279	mm3/stroke	1700	lb-ft	1400	315	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111113	N/A	I6	15	Liters	500	horsepower	2100	307	mm3/stroke	1850	lb-ft	1400	349	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111112	N/A	I6	15	Liters	535	horsepower	2100	325	mm3/stroke	1950	lb-ft	1400	372	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111111	N/A	I6	15	Liters	550	horsepower	2100	341	mm3/stroke	1950	lb-ft	1400	372	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111110	N/A	I6	15	Liters	600	horsepower	2100	331	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111109	N/A	I6	15	Liters	630	horsepower	2100	343	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111108	N/A	I6	15	Liters	650	horsepower	2100	355	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111042	N/A	I6	15	Liters	675	horsepower	2100	368	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43961:FR111130	N/A	I6	15	Liters	562	horsepower	2100	350	mm3/stroke	1960	lb-ft	1600	376	mm3/stroke	N/A	N/A	N/A	N/A
X15	43961:FR111129	N/A	I6	15	Liters	587	horsepower	2100	341	mm3/stroke	1960	lb-ft	1600	376	mm3/stroke	N/A	N/A	N/A	N/A
X15	43961:FR111107	N/A	I6	15	Liters	611	horsepower	2100	376	mm3/stroke	2086	lb-ft	1600	397	mm3/stroke	N/A	N/A	N/A	N/A
X15	43961:FR111106	N/A	I6	15	Liters	636	horsepower	2100	366	mm3/stroke	2086	lb-ft	1600	397	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111194	N/A	I6	15	Liters	605	horsepower	2100	370	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111391	N/A	I6	15	Liters	470	horsepower	2000	312	mm3/stroke	1700	lb-ft	1400	278	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR111800	N/A	I6	15	Liters	675	horsepower	2100	368	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43961:FR11801	N/A	I6	15	Liters	611	horsepower	2100	376	mm3/stroke	2086	lb-ft	1600	397	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11802	N/A	I6	15	Liters	650	horsepower	2100	355	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11803	N/A	I6	15	Liters	630	horsepower	2100	343	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11804	N/A	I6	15	Liters	600	horsepower	2100	331	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11805	N/A	I6	15	Liters	550	horsepower	2100	341	mm3/stroke	1950	lb-ft	1400	372	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11806	N/A	I6	15	Liters	535	horsepower	2100	325	mm3/stroke	1950	lb-ft	1400	372	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11807	N/A	I6	15	Liters	500	horsepower	2100	307	mm3/stroke	1850	lb-ft	1400	349	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11808	N/A	I6	15	Liters	450	horsepower	2100	279	mm3/stroke	1700	lb-ft	1400	315	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11809	N/A	I6	15	Liters	625	horsepower	1800	354	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11810	N/A	I6	15	Liters	600	horsepower	1800	338	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11811	N/A	I6	15	Liters	575	horsepower	1800	322	mm3/stroke	1950	lb-ft	1400	372	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11812	N/A	I6	15	Liters	525	horsepower	1800	293	mm3/stroke	1750	lb-ft	1400	325	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11813	N/A	I6	15	Liters	525	horsepower	1800	293	mm3/stroke	1750	lb-ft	1400	325	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11814	N/A	I6	15	Liters	500	horsepower	1800	279	mm3/stroke	1600	lb-ft	1400	299	mm3/stroke	N/A	N/A	N/A	N/A
X15	43961:FR11815	N/A	I6	15	Liters	562	horsepower	2100	350	mm3/stroke	1960	lb-ft	1600	376	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11816	N/A	I6	15	Liters	605	horsepower	2100	370	mm3/stroke	2050	lb-ft	1400	391	mm3/stroke	N/A	N/A	N/A	N/A
X15	43869:FR11855	N/A	I6	15	Liters	470	horsepower	2000	312	mm3/stroke	1700	lb-ft	1400	278	mm3/stroke	N/A	N/A	N/A	N/A
X15	45428:FR11971	N/A	I6	15	Liters	656	horsepower	2100	378	mm3/stroke	2132	lb-ft	1600	405	mm3/stroke	N/A	N/A	N/A	new parent rating
X15	45428:FR11795	N/A	I6	15	Liters	632	horsepower	2100	365	mm3/stroke	2132	lb-ft	1600	405	mm3/stroke	N/A	N/A	N/A	new child rating