

CATERPILLAR INC.

EXECUTIVE ORDER U-R-001-0632 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)			
2021	MCPXL12.5NTF	12.5	Diesel	8000			
SPECIAL	FEATURES & EMISSION C	ONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION				
Cooler.	nic Direct Injection, Turboc Oxidation Catalyst, Engin ap Oxidizer, Selective Cat Ammonia Oxidation C	e Control Module, alytic Reduction-Urea,	Loader, Tractor, Agricultural Combine, Scraper, Excavator, Motor Grader, Commercial Equipment				

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	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr) OPACITY (%)						o)	
CLASS			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 <u><</u> kW <u><</u> 560	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.08	0.23		0.2	0.01		1	

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 2nd day of September 2020.

Allen Lyons, Chief

Emissions Certification and Compliance Division

Engine Model Summary Template U-R-001-0632 8-4-2020

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
MCPXL12.5NTF	Cert Test 1	C13B	577@2100	287.3	203.0	1943@1400	361.7	170.3	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX
MCPXL12.5NTF	1	C13B	577@2100	287.3	203.0	1943@1400	361.7	170.3	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX
MCPXL12.5NTF	1A	2406J	577@2100	287.3	203.0	1943@1400	361.7	170.3	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX
MCPXL12.5NTF	2	C13B	536@2100	270.7	191.2	1807@1400	335.3	157.9	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX
MCPXL12.5NTF	2A	2406J	536@2100	270.7	191.2	1807@1400	335.3	157.9	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX
MCPXL12.5NTF	3	C13B	496@2100	254.9	180.1	1671@1400	308.7	145.4	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX
MCPXL12.5NTF	3A	2406J	496@2100	254.9	180.1	1671@1400	308.7	145.4	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX
MCPXL12.5NTF	4	C13B	456@2100	230.9	163.1	1536@1400	283.6	133.6	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX
MCPXL12.5NTF	4A	2406J	456@2100	230.9	163.1	1536@1400	283.6	133.6	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX