



**CATERPILLAR INC.**

**EXECUTIVE ORDER U-R-001-0631**  
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	MCPXL09.3NTF	9.3	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Oxidation Catalyst, Engine Control Module, Periodic Trap Oxidizer, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst			Loader, Tractor, Compressor, Excavator, Commercial Equipment	

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, 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
		FEL	N/A	N/A	--	N/A	0.01	N/A	N/A	N/A
		CERT	0.04	0.19	--	0.2	0.01	--	--	--

**BE IT FURTHER RESOLVED:** That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

**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 3rd day of September 2020.

Allen Lyons, Chief  
Emissions Certification and Compliance Division

Engine Family	1.Engine Code	2.Engine Model	4.Fuel Rate:		5.Fuel Rate:		7.Fuel Rate:		8.Fuel Rate:		9.Emission Control Device Per SAE J193C
			3.BHP@RPM (SAE Gross)	mm/stroke @ peak HP (for diesel only)	lbs/hr) @ peak HP (for diesels only)	mm/stroke @ RPM (SEA Gross)	mm/stroke@peak torque	mm/stroke@peak torque	(lbs/hr)@peak torque		
MCPXL09.3NTE	Cert Test 1	C9.3B	456@2000	238	160	1536@1400	287	135	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	Cert Test 2	C9.3B	408@1500	272	137	NA	NA	NA	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	1	C9.3B	335@2200	163	121	1130@1400	205	97	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	1A	1706J	335@2200	163	121	1130@1400	205	97	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	2	C9.3B	375@2200	181	134	1265@1400	229	108	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	2A	1706J	375@2200	181	134	1265@1400	229	108	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	3	C9.3B	416@2200	202	150	1401@1400	256	121	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	3A	1706J	416@2200	202	150	1401@1400	256	121	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	4	C9.3B	456@2000	238	160	1536@1400	287	135	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	4A	1706J	456@2000	238	160	1536@1400	287	135	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	5	C9.3B	314@1800	171	104	1154@1300	214	93	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	6	C9.3B	221@2200	113	84	1100@1200	206	83	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	6A	C9.3B	221@2200	113	84	1100@1200	206	83	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	7	C9.3B	274@2200	133	98	1263@1100	238	88	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	8	C9.3B	314@1800	175	106	1154@1300	217	95	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	9	C9.3B	408@1500	272	137	NA	NA	NA	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	9A	1706J	408@1500	272	137	NA	NA	NA	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	10	C9.3B	456@1800	259	157	NA	NA	NA	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	10A	1706J	456@1800	259	157	NA	NA	NA	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	11	C9.3B	343@1500	227	114	NA	NA	NA	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		
MCPXL09.3NTE	11A	1706J	343@1500	227	114	NA	NA	NA	DFI,TC,ECM,CAC,PTOX,OC,SCR-U,AMOX		

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 J193C
			12	13	14	15	16	17	18	19	20	21	22	23	
MCPXL09.3NTE	12	C9.3B	314@1800	175	106	1154@1300	217	95	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX						
MCPXL09.3NTE	13	C9.3B	416@2200	202	150	1401@1400	256	121	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX						
MCPXL09.3NTE	13A	1706J	416@2200	202	150	1401@1400	256	121	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX						
MCPXL09.3NTE	14	C9.3B	416@2200	202	150	1401@1400	256	121	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX						
MCPXL09.3NTE	15	C9.3B	294@2200	142	105	1314@1200	244	99	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX						
MCPXL09.3NTE	15A	C9.3B	294@2200	142	105	1314@1200	244	99	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX						
MCPXL09.3NTE	16	C9.3B	296@2200	144	106	1375@1200	259	104	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX						
MCPXL09.3NTE	16A	C9.3B	296@2200	144	106	1375@1200	259	104	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX						
MCPXL09.3NTE	17	C9.3B	347@1900	184	118	1171@1400	216	102	DFI,TC,ECM,CAC,PTOX, OC,SCR-U,AMOX						