

California Environmental Protection Agency 	CATERPILLAR INC.	EXECUTIVE ORDER U-R-001-0488 New Off-Road Compression-Ignition Engines
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Pursuant to the authority vested in the 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-02-003;

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)
2014	ECPXL27.0HZA	27.0	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Engine Control Module, Exhaust Gas Recirculation			Pump, Compressor, Off-road Haul Truck	

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	Interim Tier 4	STD	0.40	3.5	N/A	3.5	0.10	20	15	50
		CERT	0.16	3.0	--	0.9	0.06	5	6	4

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 at El Monte, California on this 17th day of October 2013.


 Erik White, Chief
 Mobile Source Operations Division

10/7/2013

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
ECPXL27.0HZA	Cert Test 1	C27	373@2245	115	174	3539@1400	331	311	TC,CAC,ECM,EGR,DFI
ECPXL27.0HZA	1 - 1050/1800/2100	C27	373@2245	115	174	3539@1400	335	315	TC,CAC,ECM,EGR,DFI
ECPXL27.0HZA	2 - 800/1800/2100	C27	386@2250	83	126	2697@1400	259	244	TC,CAC,ECM,EGR,DFI
ECPXL27.0HZA	3 - 875/1800/2100	C27	294@2250	123	187	2950@1400	278	262	TC,CAC,ECM,EGR,DFI
ECPXL27.0HZA	4 - 950/1800/2100	C27	315@2300	76	118	3203@1400	303	285	TC,CAC,ECM,EGR,DFI