

California Environmental Protection Agency <b>Air Resources Board</b>	<b>KOMATSU LIMITED</b>	<b>EXECUTIVE ORDER U-R-005-0404</b> 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 engine and emission control system 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	EKLXL04.5AAG	4.5	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Modules, Exhaust Gas Recirculation, Diesel 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 hydrocarbon (HC), oxides of nitrogen (NO<sub>x</sub>), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NO<sub>x</sub>), 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 (%)		
			HC	NO <sub>x</sub>	NMHC+NO <sub>x</sub>	CO	PM	ACCEL	LUG	PEAK
75 ≤ kW < 130	Interim Tier 4 / ALT NO <sub>x</sub>	STD	0.19	3.4	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.02	3.0	--	0.02	0.02	--	--	--

**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 7<sup>th</sup> day of October 2013.

  
Erik White, Chief  
Mobile Source Operations Division

## Engine Model Summary Template

Attachment 1 of 1

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9-17-2013

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
EKLXL04.5AAG	3670:FR93376	SAA4D107E-2	163@2500	104	58	466@1500	132	44	DDI,ECM,TC,CAC, EGR, OC
EKLXL04.5AAG	3590:FR94019	SAA4D107E-2	148@2000	116	51	458@1600	130	46	DDI,ECM,TC,CAC, EGR, OC
EKLXL04.5AAG	3590:FR93361	SAA4D107E-2	121@2100	95	44	357@1500	106	35	DDI,ECM,TC,CAC, EGR, OC
EKLXL04.5AAG	3590:FR94018	SAA4D107E-2	128@2000	102	45	432@1400	130	40	DDI,ECM,TC,CAC, EGR, OC