## KOMATSU LIMITED

EXECUTIVE ORDER U-R-005-0386 New Off-Road Compression-Ignition Engines

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)			
2012	CKLXL06.7AAJ	6.7	Diesel	8000			
	FEATURES & EMISSION		TYPICAL EQUIPMENT APPLICATION				
Electron Cooler Recircula	ic Direct Injection, Turboo , Electronic Control Modu ation, Diesel Oxidation Ca Trap Oxidizer	atalyst, and Periodic	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 (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	EMISSION		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER	STANDARD CATEGORY		нс	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
56 ≤ kW < 130	Interim Tier 4 / ALT NOx	STD	0.19	3.4	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.01	2.0		0.01	0.000			

**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 \_\_\_

Annette Hebert, Chief

Mobile Source Operations Division

day of October 2011.

## Attachment 1 of 1

## **Engine Model Summary Template**

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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		9.Emission Control eDevice Per SAE J1930
CKLXL06.7AAJ	3096:FR92567	SAA6D107E-2	170@2100	84	60	566@1400	110	52	DDI,ECM,TC,CAC, EGR, PTOX, OC
CKLXL06.7AAJ	3096:FR92571	SAA6D107E-2	165@2000	84	57	479@1500	92	46	DDI,ECM,TC,CAC, EGR, PTOX, OC
CKLXL06.7AAJ	3096:FR92571	SAA6D107E-2	165@2000	84	57	479@1500	92	46	DDI,ECM,TC,CAC, EGR , PTOX , OC
CKLXL06.7AAJ	3096:FR92573	SAA6D107E-2	154@2000	82	55	509@1300	103	45	DDI,ECM,TC,CAC, EGR , PTOX , OC
CKLXL06.7AAJ	3096:FR92576	SAA6D107E-2	170@2200	79	58	566@1400	106	50	DDI,ECM,TC,CAC, EGR , PTOX , OC