## KOMATSU LIMITED

EXECUTIVE ORDER U-R-005-0436 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-14-012;

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)		
2017	HKLXL03.3JDB	3.26	Diesel	8000		
	FEATURES & EMISSION O		TYPICAL EQUIPMENT APPLICATION			
Charg	ectronic Direct Injection, T ge Air Cooler, Exhaust Ga kidation Catalyst, and Eng	as Recirculation,	Loaders, Forklift			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (ČERT) 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	EMISSION		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER CLASS	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
37 ≤ kW < 56	Tier 4 Final	STD	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		CERT			3.2	0.6	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

\_\_day of December 2016.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

## **Engine Model Summary Template**

Attachment 1 ab 1

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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)			9.Emission Control DeDevice Per SAE J1930
HKLXL03.3JDB	4C13	SAA4D95LE-6-C	68@1950	59	25	239@1400	76	23 邟	C EM,TC,CAC,EGR,ECM,ØC, DFI
HKLXL03.3JDB	4C14	SAA4D95LE-6-C	71@2150	57	27	217@1400	69	21	EM,TC,CAC,EGR,ECM,ØØ, DFI
HKLXL03.3JDB	4C16	SAA4D95LE-6-C	70@2200	55	27	196@1600	64	22 V	EM,TC,CAC,EGR,ECM,OF,DFI