California Environmental Protection Agency Air Resources Board

KOMATSU LIMITED

EXECUTIVE ORDER U-R-005-0430 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) 8000		
2016	GKLXL04.5AAI	4.5	Diesel			
	FEATURES & EMISSION		TYPICAL EQUIPMENT APPLICATION			
Charg	ctronic Direct Injection, e Air Cooler, Exhaust G el Oxidation Catalyst, Se ction-Urea, Ammonia O and Engine Control	as Recirculation, lective Catalytic xidation Catalyst	Loaders, Dozer, Excavator			

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	EMISSION		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
75 ≤ kW < 130	Tier 4 Final	STD	0.19	0.40	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.04	0.10		0.03	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 2015.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

Engine Model Summary Template

Attachment 1061

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				4.Fuel Rate:	5.Fuel Rate:		7.Fuel Rate:		
Engine Family	1 Engine Code	2 Engine Medal	3.BHP@RPM	mm/stroke @ peak HP		6.Torque @ RPM	mm/stroke@peak	8.Fuel Rate:	9.Emission Control
Engine Family	1.Engine Code	2.Engine Model	(SAE Gross)	(for diesel only)	(for diesels only)	(SEA Gross)	torque	(lbs/hr)@peak torqu	eDevice Per SAE J1930
GKLXL04.5AAI	4189:FR94118	SAA4D107E-3	173@2500	115	65	520@1500	155	52 Sc(Z-V SCR, DOC,DDI,TC,
								An	OX EGR,CAC,ECM
GKLXL04.5AAI	4731:FR95086	SAA4D107E-3	121@2100	89	42	368@1500	103	35	S OR, DOC,DDI,TC,
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GKLXL04.5AAI	4731:FR94563	SAA4D107E-3	148@2000	111	50	472@1500	134	45	SGR, DOC,DDI,TC,
		and the resonant of the first material and the state of t	Section 18 of 1 and decrees the section of the sect	MENTAL MENTAL SERVICE SERVICE AND CONTRACT OF THE SERVICE SERV		ne verteel ver	and the street property of the street state of	0000	EGR,CAC,ECM
GKLXL04.5AAI	4731:FR95089	SAA4D107E-3	128@2000	97	44	442@1350	127	39	SCR, DOC,DDI,TC,
									EGR,CAC,ECM
GKLXL04.5AAI	4731:FR95092	SAA4D107E-3	133@2200	94	47	431@1450	125	41	Y SOR, DOC,DDI,TC,
	9								EGR,CAC,ECM