KOMATSU LIMITED

EXECUTIVE ORDER U-R-005-0472 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in California 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 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)		
2019	KKLXL30.5GDC	30.48	Diesel	8000		
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT	APPLICATION		
Recircula	ocharger, Charge Air Coo tion, Electronic Control M Catalyst, Oxidation Catal Injection	odule, Periodic Trap	Loader, Dump 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	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER CLASS			NMHC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
ELSE > 560 kW	Tier 4 Final	STD	0.19	3.5	N/A	3.5	0.04	N/A	N/A	N/A
		CERT	0.02	3.2	-	0.01	0.004		-	-

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 August 2018

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

ATTACHMENT 1 OF 1

Engine Model Summary Template

U-R-005-0472 11/26/19

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
KKLXL30.5GDC	5C02	SAA12V140E-7	1065@1800	298	363	3371@1350	321	292	EM,TC, CAC,EGR,ECM,PTOX,OC, DFI
KKLXL30.5GDC	5C01	SAA12V140E-7	1200@1900	335	423	3747@1350	369	331	EM,TC, CAC,EGR,ECM,PTOX,OC, DFI
KKLXL30.5GDC	5C04	SAA12V140E-7	900@2050	231	321	3067@1300	294	258	EM,TC, CAC,EGR,ECM,PTOX,OC, DFI
KKLXL30.5GDC	5C03	SAA12V140E-7	1042@2000	281	370	3335@1400	325	300	EM,TC, CAC,EGR,ECM,PTOX,OC, DFI
*KKLXL30.5GDC	5C05	SAA12V140E-7	856@2025	231	310	2806@1400	281	261	EM,TC, CAC,EGR,ECM,PTOX,OC, DFI

^{*}New Model Added