

Komatsu Limited

EXECUTIVE ORDER U-R-005-0177 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)			
2004 4KLXL11.0DC3		11.0	Diesel	8000			
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION				
Direct Dies	el Injection, Turbocharg Engine Control Mo	er, Charge Air Cooler, odule	Dozer				

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 CLASS	STANDARD CATEGORY		HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
130 < kW < 225	Tier 2	STD	N/A	N/A	6.6	3.5	0.20	20	15	50
100		CERT			6.1	0.6	0.14	11	3	23

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 2003.

Allen Lyons, Chief

Mobile Source Operations Division

U-12-005-017

6/6/20

Manufacturer: KOMATSULTD.

Manufacturer Family Name:

5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only) 4,Fuel Rate: mm/stroke @ peak HP (for diesel only) 3.BHP@RPM (SAE Gross) EPA Engine Family: 4KLXL11.0DC3 2.Engine Model 1.Engine Code

6.Torque @ RPM (SEA Gross)

DOY, EM, ECH, TC, CAC EM,ECU 90 73 193 155 933@1400 82 97 153 261@1900 207@1950 SA6D125E-3 SA6D125E-3 2C09 2C12

SA6D125E-3

7 Fuel Rate: 8.Fuel Rate: 9.Emission Control mm/stroke@peak t (lbs/hr)@peak torque Device Per SAE J1930 orque

746@1400

Process Code: New Submission.