KOMATSU LIMITED

EXECUTIVE ORDER U-R-005-0214 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)	
2005	5KLXL15.2ED3	15.2	Diesel	8000	
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION		
Engine Control Module, Direct Diesel Injection, Turbocharger, Charge Air Cooler			Dump Truck		

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 POWER	EMISSION STANDARD		EXHAUST (g/kw-hr)				OPACITY (%)			
CLASS	CATEGORY		нс	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
225 ≤ kW < 450	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	20	15	50
		CERT			6.0	0.8	0.14	16	3	33

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

Allen Lons, Chief

Mobile Source Operations Division

day of November 2004.

LARGE ENGINE MOLL SUMMARY

4-008-0214

Manufacturer: KOMATSULTD.

EPA Engine Family: 5KLXL15.2ED3

Process Code: New Submission

Manufacturer Family Name: SAA6D140E-3

7.Fuel Rate: mm/stroke@peak t 6 Torone @ RPM 5.Fuel Rate: 4.Fuel Rate: mm/stroke @ peak HP

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9.Emission Control Device Per SAE J1930	DOT, EM, ECM, TC, CAC	, EM,EC	EM,EC	,) , EM, EC / ,	V EM,EC ▼	
8.Fuel Rate: (lbs/hr)@peak torque	141	135	141	131		
nm/stroke@peak t orque	304	289	312	282		
S.Fuel Kate: ss/hr) @ peak HP 6.Torque @ RPM (for diesels only) (SEA Gross)	1598@1400	1512@1400	1594@1350	1439@1400		
5.Fuel Kate: (lbs/hr) @ peak HP (for diesels only)	169	153	158	143	237	
mm/stroke @ peak HP (for diesel only)	256	230	262	216	395	
3.BHP@RPM (SAE Gross)	508@2000	444@2000	474@1800	399@2000	694@1800	
3.внр@RPM 1.Engine Code 2.Engine Model (SAE Gross)	SAA6D140E-3	SAA6D140E-3	SAA6D140E-3	SAA6D140E-3	SAA6D140E-3	
1.Engine Code	2C02	2C05	2C06	2C08	2G03	