California Environmental Protection Agency AIR RESOURCES BOARD	Komatsu Limited	EXECUTIVE ORDER U-R-005-0173 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 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)
2004	4KLXL0505ABD	8.3	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler	Crane, Loaders, Tractor, Dozer, Pump, Compressor

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 CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			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
		CERT	--	--	5.9	0.8	0.17	13	4	40

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 18TH day of September 2003.

Allen Lyons, Chief
Mobile Source Operations Division

Attachment 1 of 1

Engine Model Summary Form

U-R-005-0173

Manufacturer: **Komatsu**

Engine category: **Nonroad Over 50 Hp**

EPA Engine Family: **4KLXL0505ABD**

Mfr Family Name: **G413**

Process Code: **New Submission**

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
8185;FR90882	SAA6D114E-2	265@2200	143	106.1	922@1500	182	92.1	DDI,TC,CAC
8185;FR90884	SAA6D114E-2	250@2200	132	98.2	853@1500	166	83.9	DDI,TC,CAC
8145;FR90998	SAA6D114E-2	254@1900	143	91.8	825@1400	163	76.9	DDI,TC,CAC
8146;FR90999	SAA6D114E-2	203@2000	118	79.5	687@1400	137	64.7	DDI,TC,CAC
8146;FR91261	SAA6D114E-2	197@1900	116	74.1	694@1400	140	64.7	DDI,TC,CAC
8146;FR91262	SAA6D114E-2	207@1900	126	78.9	730@1400	149	68.7	DDI,TC,CAC
8425;FR91245	SAA6D114E-2	238@1900	139	89.2	798@1400	161	76.0	DDI,TC,CAC
8277;FR9925	SAA6D114E-2	170@1800	133	77.1	629@1300	146	64.0	DDI,TC,CAC
2997;FR90895	SAA6D114E-2	205@2200	115	83.6	714@1500	142	70.2	DDI,TC,CAC