

 AIR RESOURCES BOARD	Komatsu Limited	EXECUTIVE ORDER U-R-005-0121
		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-45-9;

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)
2002	2KLXL0359ABA	5.9	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler			Crane, Loaders, Tractor, Dozer, Pump, Compressor, Generator Set	

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
75 ≤ KW < 130	Tier 1	STD	N/A	9.2	N/A	N/A	N/A	20	15	50
130 ≤ KW < 225	Tier 1	STD	1.3	9.2	N/A	1.4	0.54	20	15	50
		CERT	0.4	8.7	--	0.8	0.18	6	2	22

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 13th day of December 2001.



R. B. Summerfield, Chief
 Mobile Source Operations Division

Engine Model Summary Form ATTACHMENT

U-R-005-0121

Manufacturer: Komatsu
Engine category: Nonroad Over 50 Hp
EPA Engine Family: 2K1XL0359ABA
Mfr Family Name: A403
Process Code: New Submission

1. Engine Code	2. Engine Model	3. BHP@RPM (SAE Gross)	4. Fuel Rate: mm ³ /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 ³ /stroke@peak torque	8. Fuel Rate: (lbs/hr)@peak torque	9. Emission Control Device Per SAE J1930
2063;FR9897	SA6D102EA-1	185@2200	93	69.0	580@1500	111	56.3	DSL, TC, CAC
2063;FR90539	SA6D102EA-1	185@2200	93	69.0	580@1500	111	56.3	TC, CAC
1982;FR90019	SA6D102E-1	166@2075	85	59.4	463@1500	89	45.0	TC, CAC
2147;FR90444	SA6D102E-1	171@2200	84	62.4	469@1400	99	43.8	TC, CAC
2658;FR90629	SA6D102E-1	160 @ 2350	76	59.9	456 @ 1600	88	47.5	TC, CAC
2940;FR90782	SA6D102E-G1	177 @ 1800	106	64.1	n/a	n/a	n/a	TC, CAC
8028;FR90814	SA6D102EA-1	165@2000	88	59.2	555@1500	108	54.5	TC, CAC
8028;FR91089	SA6D102EA-1	173@2200	88	65.1	590@1500	112	56.8	TC, CAC