

## **KOMATSU LIMITED**

EXECUTIVE ORDER U-R-005-0261 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)		
2007	7KLXL038.AAA	38.0, 50.0	Diesel	8000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
Direct Die	sel Injection, Turbocharg	er, Charge Air Cooler	Haul Truck, Excavator			

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, 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	STANDARD CATEGORY		HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
kW > 560	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	20	15	50
		FEL	N/A	N/A	9.8	N/A	0.24	N/A	N/A	N/A
		CERT			8.8	2.5	0.23	14	6	24

**BE IT FURTHER RESOLVED:** That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

**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 November 2006.

Annette Hebert, Chief

Mobile Source Operations Division

Komatsu Limited Manufacturer:

Engine category: Nonroad Cl EPA Engine Family: 7KLXL038.AAA

Mfr Family Name: A283

**New Submission** Process Code:

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9.Emission Control Device Per SAE J1930	DDJ.EM.I.S.		٠ ا ا	DDI,EM, IC, CAC		
9.Emissidevice Per		יי מילול מילול	DDI,EMI	DDI,EN		
8.Fuel Rate: (lbs/hr)@peak torque	340	340	538	538		
8 n/sdl)					200320000000000000000000000000000000000	
7.Fuel Rate: mm/stroke@peak torque	360	360	339	399		
7.Fue mm/strol ton	V2	(,) 				
RPM s)	8	8	8	8		
6.Torque @ RPM (SEA Gross)	3767@1400	3767@1400	5800@1500	5800@1500		
201 Maria	37	8	22	38		
5.Fuel Rate: (bs/hr) @ peak HP (for diesels only)	981	9	7	4		
5.Fuel Rate: bs/hr) @ peak Hl (for diesels only)	43	436	654	654		
F						
4.Fuel Rate: mm/stroke @ peak (for diesel only)	359	359	383	383		
4.F mm/stro (for c			***			
RPM oss)	900	9008	006	006		
3.BHP@RPM (SAE Gross)	1260@1800	260@1800	2000@1900	2000@1900		
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ne Mod	SSA12V159	SSA12V159	SSA16V159	SSA16V159		
2.Engine Model	SSA	SSA1	SSA1	SSA1		
	061	50	356	688		
1.Engine Code	2936.FR6390	2937:FR6391	2913 FR6356	2914:FR6389		
<u>т</u>	293	293	100	29-1		