

KOMATSU LIMITED

EXECUTIVE ORDER U-R-005-0237-1 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)		
2006	6KLXL0359AAL	5.9	Diesel	8000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
Direct Diesel Injection, Turbocharger, Charge Air Cooler			Crane, Loader, Tractor, Dozen	r, Pump, Compressor		

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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)				OPACITY (%)			
			HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
75 ≤ kW < 130	Tier 2	STD	N/A	N/A	6.6	5.0	0.30	20	15	50
		FEL	N/A	N/A	6.3	N/A	0.24	N/A	N/A	N/A
		CERT			5.8	0.7	0.16	12	1	29

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.

This Executive Order hereby cancels and replaces Executive Order U-R-002-0237 dated October 17, 2005.

Allen Lyons, Chief

Mobile Source Operations Division

day of April 2006.

1-15-005-0237-1

Engine Model Summary Form ATTACHKENT P. 104 (

Komatsu Ltd. Manufacturer:

Engine category: Nonroad CI
EPA Engine Family: 6KLXL0359AAL

Mfr Family Name: M403

New Submission

Process Code:

9.Emission Control Device Per SAE J1930	DDI,TC,CAC DDI,TC,CAC DDI,TC,CAC DDI,TC,CAC DDI,TC,CAC DDI,TC,CAC	
8.Fuel Rate: (ibs/hr)@peak torque	41.5 41.5 43.9 50.1	
7.Fuel Rate: mm/stroke@peak torque (102 102 93 99 99	
6.Torque @ RPM (SEA Gross)	460@1500 416@1500 432@1400 463@1400 496@1500 522@1500	
5.F (lbs/hr (for d	55.3 58.2 6518 49.9 54.6 66.1	
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	78 78 74 74 81 98	
3.BHP@RPM (SAE Gross)	150@1950 145@2200 166@1950 128@2200 171@2200	
	SAA6D102E-2 150@1950 SAA6D102E-2 166@1950 SAA6D102E-2 128@2000 SAA6D102E-2 128@2200 SAA6D102E-2 171@2200 SAA6D102E-2 173@2200	
	2678;FR90650 8111;FR91001 8105;FR99097 8265;FR9903 8265;FR9904 8267;FR9905 8604;FR91466	