

## KOMATSU LIMITED

EXECUTIVE ORDER U-R-005-0382 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)		
2011	BKLXL15.2EDA	15.2	Diesel	8000		
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT	APPLICATION		
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Periodic Trap Oxidizer, and Engine Control Module			Loader, Dozer, and Other Industrial Equipment			

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	EMISSION		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER CLASS	STANDARD CATEGORY	- 0.00	НС	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Tier 4 / ALT NOx	STD	0.19	2.0	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.02	1.7		0.8	0.004			

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 June 2011.

Annette Hebert, Chief

Mobile Source Operations Division

Attachment 1 of 1

## **Engine Model Summary Template**

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Engine Family	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 to	9.Emission Control queDevice Per SAE J1930	
BKLXL15.2EDA	4C01	SAA6D140E-6	473@2000	259	173	1678@1400	329	154	DOC EM,TC,CAC,EGR,DFI,ECM	PTOX
BKLXL15.2EDA	4C02	SAA6D140E-6	359@1900	210	133	1353@1300	273	119	EM,TC,CAC,EGR,DFI,ECM	
BKLXL15.2EDA	4C03	SAA6D140E-6	357@1900	205	130	1331@1250	271	113	EM,TC,CAC,EGR,DFI,ECM	
BKLXL15.2EDA	4C04	SAA6D140E-6	518@2000	273	183	1685@1400	332	156	₩ EM,TC,CAC,EGR,DFI,ECM	$\checkmark$