California Environmental Protection Agency AIR RESOURCES BOARD	KOMATSU LIMITED	EXECUTIVE ORDER U-R-005-0378 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	BKLXL0275AAG	4.5	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Engine Control Module	Loader, Tractor, Dozer, Pump and 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
75 ≤ KW < 130	Tier 3	STD	N/A	N/A	4.0	5.0	0.30	20	15	50
			N/A	N/A	3.8	0.9	0.13	1	1	3

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 23 day of November 2010.

Annette Hebert, Chief
Mobile Source Operations Division

Attachment 1 of 1

U-R-005-0378

11-9-2010

Engine Model Summary Template

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 torque	9.Emission Control Device Per SAE J1930
BKLXL0275AAG	8725;FR91995	SAA4D107E-1	170 @ 2200	133	65.8	475 @ 1500	145	48.9	DDI TC CAC ECM
BKLXL0275AAG	1700;FR91667	SAA4D107E-1	107 @ 2200	88	43.5	351 @ 1300	121	35.4	DDI TC CAC
BKLXL0275AAG	1700;FR92076	SAA4D107E-1	130@2200	99	49	347@1500	111	37.4	DDI TC CAC
BKLXL0275AAG	1700;FR91610	SAA4D107E-1	121 @ 2200	95	47	346 @ 1500	114	38.4	DDI TC CAC
BKLXL0275AAG	1701;FR91606	SAA4D107E-1	148 @ 2300	113	58.5	441 @ 1500	134	45.2	DDI TC CAC
BKLXL0275AAG	1701;FR91607	SAA4D107E-1	130 @ 2300	104	53.7	377 @ 1500	127	42.9	DDI TC CAC
BKLXL0275AAG	1703;FR91617	SAA4D107E-1	128 @ 2000	107	48.2	433 @ 1400	136	42.7	DDI TC CAC
BKLXL0275AAG	3273:FR93267	SAA4D107E-1	143@2000	117.2	52.8	435@1500	136.0	45.8	DDI TC CAC
BKLXL0275AAG	3273:FR92846	SAA4D107E-1	143@2000	123	55.3	435@1500	136.7	46.1	DDI TC CAC
BKLXL0275AAG	3273:FR93356	SAA4D107E-1	148@2000	122.7	55.2	435@1500	135.5	45.7	DDI TC CAC