California Environmental Protection Agency AIR RESOURCES BOARD	Lombardini A KOHLER Company	EXECUTIVE ORDER U-R-027-0134 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 engines and emission control systems 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	BLBDL2.19CH2	1.6494, 2.1992	Diesel	5000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Indirect Diesel Injection	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
19 ≤ kW < 37	Tier 4 - Interim	STD	N/A	N/A	7.5	5.5	0.30	20	15	50
		CERT	--	--	6.1	1.3	0.24	2	1	7

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 28TH day of December 2010.

M. Tuente FOR AGM

Annette Hebert, Chief
Mobile Source Operations Division

Attachment 1 of 2

Engine Model Summary Template

U_R_027 - 0134

12-27-2010

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
BLBDL2.19CH2		LDW 1603/G	37.5@2800	34.5	16.07	76.7@1650	36.0	9.88	IDI
BLBDL2.19CH2		LDW 1603	38.9@3000	34.0	16.95	76.7@1650	36.0	9.88	IDI
BLBDL2.19CH2		LDW 1603/B1	36.2@2800	33.0	15.37	75.2@1650	35.5	9.74	IDI
BLBDL2.19CH2		LDW 1603/B2	33.9@2600	32.5	14.04	75.2@1600	35.5	9.44	IDI
BLBDL2.19CH2		LDW 2204	49.1@3000	31.0	20.61	97.7@2100	34.0	15.83	IDI
BLBDL2.19CH2		LDW 2204/B1	47.3@2800	31.5	19.56	97.4@1800	34.0	13.56	IDI
BLBDL2.19CH2		LDW 2204GE	30.2@1800	31.0	12.37	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
BLBDL2.19CH2		LDW 2204/G	47.3@2800	31.5	19.56	95.9@1600	34.0	12.06	IDI
BLBDL2.19CH2		LDW 1503/B5	32.2@2800	32.5	15.12	69.0@2000	33.5	11.13	IDI
BLBDL2.19CH2		LDW 1603/B3	35.5@3000	31.0	15.45	73.0@1650	34.5	9.46	IDI
BLBDL2.19CH2		LDW 1603/B6	32.9@2500	32.5	13.51	74.5@2000	35.0	11.64	IDI
BLBDL2.19CH2		LDW 1603/B4	30.8@2400	32.5	12.96	76.0@1700	35.5	10.03	IDI
BLBDL2.19CH2		LDW 2204/B4	42.2@2500	31.0	17.17	97.4@1800	34.0	13.56	IDI
BLBDL2.19CH2		LDW 2204/B5	36.2@2200	31.0	15.12	97.4@1800	34.0	13.56	IDI
BLBDL2.19CH2		KDW 1603/G	37.5@2800	34.5	16.07	76.7@1650	36.0	9.88	IDI
BLBDL2.19CH2		KDW 1603	38.9@3000	34.0	16.95	76.7@1650	36.0	9.88	IDI
BLBDL2.19CH2		KDW 1603/B1	36.2@2800	33.0	15.37	75.2@1650	35.5	9.74	IDI
BLBDL2.19CH2		KDW 1603/B2	33.9@2600	32.5	14.04	75.2@1600	35.5	9.44	IDI
BLBDL2.19CH2		KDW 2204	49.1@3000	31.0	20.61	97.7@2100	34.0	15.83	IDI
BLBDL2.19CH2		KDW 2204/B1	47.3@2800	31.5	19.56	97.4@1800	34.0	13.56	IDI
BLBDL2.19CH2		KDW 2204GE	30.2@1800	31.0	12.37	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
BLBDL2.19CH2		KDW 2204/G	47.3@2800	31.5	19.56	95.9@1600	34.0	12.06	IDI
BLBDL2.19CH2		KDW 1503/B5	32.2@2800	32.5	15.12	69.0@2000	33.5	11.13	IDI
BLBDL2.19CH2		KDW 1603/B3	35.5@3000	31.0	15.45	73.0@1650	34.5	9.46	IDI
BLBDL2.19CH2		KDW 1603/B6	32.9@2500	32.5	13.51	74.5@2000	35.0	11.64	IDI
BLBDL2.19CH2		KDW 1603/B4	30.8@2400	32.5	12.96	76.0@1700	35.5	10.03	IDI
BLBDL2.19CH2		KDW 2204/B4	42.2@2500	31.0	17.17	97.4@1800	34.0	13.56	IDI
BLBDL2.19CH2		KDW 2204/B5	36.2@2200	31.0	15.12	97.4@1800	34.0	13.56	IDI

Attachment 2 of 2

Engine Model Summary Template

U-K-02T-0124
12-27-2010

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
BLBDL2.19CH2		LDW 2204GE	32.9@1800	34.0	13.56	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI
BLBDL2.19CH2		KDW 2204GE	32.9@1800	34.0	13.56	FIXED SPEED	FIXED SPEED	FIXED SPEED	IDI