## California Environmental Protection Agency Air Resources Board

## **KUBOTA Corporation**

EXECUTIVE ORDER U-R-025-0604 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)						
2014	EKBXL01.5BCB	1.124, 1.498	Diesel	3000						
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION							
	Indirect Diesel Inje	ction	Loader, Tractor, Compressor, Generator Set, and Other Industrial Equipment							

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), 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			E	EXHAUST (g/kw-ł	OPACITY (%)					
POWER CLASS	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	IC+NOx CO		ACCEL	LUG	PEAK	
8 ≤ kW < 19	Tier 4 Final	STD	N/A	N/A	7.5	6.6	0.40	20	15	50	
7,		CERT	x		5.8	1.4	0.21	5	3	12	

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 December 2013.

Erik White, Chief

Mobile Source Operations Division

## **Engine Model Summary Form**

**KUBOTA** Corporation Manufacturer:

Nonroad Cl Engine category:

EKBXL01.5BCB EPA Engine Family:

Mfr Family Name: Process Code:

**New Submission** 

Attachment page 1 of

E0#U-R-025-0604

Date: 11/22/2013

9. Emission Control Device Per SAE J1930	EM, IFI	EM. IFI	EM, IFI	\\\-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Indirect fuel Injection															
8.Fuel Rate: (lbs/hr)@peak torque	6.8	7.8	9.4	8.1	7.7	7.3	7.2	6.8	6.2	6.8	9.1	8.7		-117						
7.Fuel Rate: mm/stroke@peak torque	25.4	26.0	25.4	25.4	24.2	25.5	25.4	25.4	24.6	25.4	24.0	22.8								
6.Torque @ RPM (SEA Gross)	52.7@1600	54.6@1800	52.7@2200	53.4@1900	50.5@1900	52.9@1700	52.6@1700	52.7@1600	50.7@1500	52.7@1600	68.3@1700	65.3@1700								
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	8.9	11.2	11.2	10.8	6.6	9.5	9.2	8.9	8.1	8.1	10.5	10.4								
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	22.2	22.3	22.3	22.9	21.9	21.7	21.9	22.2	21.4	21.9	20.4	20.6								
3.BHP@RPM (SAE Gross)	20.9@2400	24.8@3000	24.8@3000	24.3@2800	22.5@2700	21.9@2600	21.3@2500	20.9@2400	19.0@2250	19.0@2200	24.8@2300	24.4@2250								
2.Engine Model	D1.1A-EF	D1105-EF	V1505-EF	V1505-EF																
1.Engine Code	D1.1A-EF07	D1105-EF01	D1105-EF02	D1105-EF03	D1105-EF04	D1105-EF05	D1105-EF06	D1105-EF07	D1105-EF08	D1105-EF09	V1505-EF01	V1505-EF02								