

KUBOTA CORPORATION

EXECUTIVE ORDER U-R-025-0103 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)
2003	3KBXL01.5BCD	1.123, 1.498	Diesel	5000
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT	APPLICATION
	Indirect Diesel Inje	ection	Compressor, Other Indus	strial 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			E	XHAUST (g/kw-l	hr)		OF	PACITY (%	6)
POWER CLASS	STANDARD CATEGORY		HC	NOx	NMHC+Nox	co	PM	ACCEL	LUG	PEAK
19 ≤ KW < 37	Tier 1	STD	N/A	N/A	9.5	5.5	0.80	20	15	50
		CERT			6.0	1.4	0.51	10	8	17

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 474 day of December 2002.

Aller Lyons, Chief

Mobile Source Operations Division

Engine Model Sr. mary Form

attachuent 18 1 of

KUBOTA Corporation Manufacturer:

EPA Engine Family: 3KBXL01.5BCD Nonroad CI Engine category:

Mfr Family Name: N/A

Running Change Process Code:

U-R-025-0103

D1105-E 26.0@3000 D1105-E 26.0@3000 D1105-E 26.0@3000 V1505-E 35.5@3000 V1505-E 33.5@2800 V1505-E 33.5@2800 V1505-E 28.4@2400 V1505-E 28.4@2400 V1505-E 28.4@2400 V1505-E 28.4@2000 V1505-E 28.2@2600	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	30 –
02 D1105-E 25.083000 22.5 11.3 52.782200 24.8 9.1 N/H 03 D1105-E 25.182800 22.7 10.7 54.182200 25.0 9.2 N/H 01 V1505-E 25.03000 22.5 11.3 52.782200 24.8 9.1 N/H 01 V1505-E 35.582800 22.5 15.1 72.280200 24.8 9.1 N/H 02 V1505-E 35.682800 21.8 13.9 72.580100 24.7 8.8 N/H 03 V1505-E 28.482400 21.2 11.4 70.7801600 24.7 8.8 N/H 04 V1505-E 28.482400 21.2 11.4 70.7801600 24.1 8.8 N/H 05 V1505-E 28.482400 21.7 11.6 64.3801600 23.1 11.4 70.7801600 24.1 8.8 N/H 06 V1505-E 28.4862100 22.2 10.8 65.3801600	D1105-E01	D1105-E	26.4@3000	22.9	11.5	54.5@1700	25.9	7.4	Q1 W/A	
03 D1105-E 25.1 © 2800 22.7 10.7 54.1 © 200 25.0 9.2 21 D1105-E 26.0 © 3000 22.5 11.3 52.7 © 2200 24.8 9.1 21 V1505-E 33.5 © 2860 21.8 13.9 68.4 © 2100 24.7 9.4 21 V1505-E 33.5 © 2800 21.2 13.9 68.4 © 2100 24.7 9.4 24 V1505-E 27.6 © 2200 21.2 11.4 70.7 © 1800 24.7 8.8 25 V1505-E 28.4 © 2400 21.7 11.4 70.7 © 1800 24.7 8.8 25 24.6 © 2200 21.7 11.4 70.7 © 1800 24.7 8.8 25 24.6 © 2400 21.7 11.4 70.7 © 1800 24.7 8.8 26 V1505-E 28.4 © 2400 21.7 11.4 70.7 © 1800 24.7 8.3 27 V1505-E 28.6 © 2200 22.2 10.8 66.3 © 1600 24.7 8.3 <	D1105-E02	D1105-E	26.0@3000	22.5	11.3	52.7@2200	24.8	9.1	-	
21 Di105-E 26,093000 22.5 11.3 52,702200 24.8 9.1 21 V1505-E 35,60300 22.5 15.1 72.002200 24.8 12.2 22 33,602800 22.2 13.9 69,402100 23.8 11.2 23 V1505-E 28,602300 21.3 11.0 72,501700 24.7 8.8 24 V1505-E 28,402400 21.7 11.4 70,700-100 24.7 8.8 25 V1505-E 28,402400 21.7 11.6 64,001500 24.7 8.8 26 V1505-E 28,402400 21.7 11.6 64,001500 24.7 8.4 27 V1505-E 28,002200 22.0 10.8 65.301600 24.7 8.3 28 V1505-E 28,002200 22.8 10.7 69.001500 24.7 8.3 29 V1505-E 28,202600 20.5 11.9 68,201600 24.7 8.7	D1105-E03	D1105-E	25.1@2800	22.7	10.7	54.1@2200	25.0	9.2	47	
11 V1505-E 35.693000 22.5 15.1 72.292200 24.8 12.2 22 V1505-E 33.562850 21.8 13.9 69.402100 23.8 11.2 33 V1505-E 23.602800 22.2 13.9 72.501700 24.7 9.4 34 V1505-E 28.402400 21.2 11.0 72.501600 24.7 8.8 35 V1505-E 28.402400 21.2 11.4 70.701600 24.7 8.8 30 V1505-E 28.402400 21.7 11.6 64.001900 24.1 8.6 30 V1505-E 26.002200 22.0 10.8 65.301600 24.7 8.3 30 V1505-E 24.402000 22.3 10.7 69.001500 24.7 8.3 31 V1505-E 24.402000 22.9 10.2 69.801600 24.2 8.7 4 V1505-E 28.20200 20.5 11.9 68.20160 25.1 8.7 <	✓ D1105-E21	D1105-E	26.0@3000	22.5	11.3	52.7@2200	24.8	9.1	NIA	
22 V1505-E 33.5@2850 21.8 13.9 69.4@2100 23.8 11.2 33 V1505-E 33.5@2800 22.2 13.9 72.5@100 24.7 9.4 34 V1505-E 27.6@2300 21.3 11.0 72.5@1600 24.7 8.8 35 V1505-E 28.4@2400 21.7 11.6 64.0@1900 21.7 8.6 36 V1505-E 28.4@2400 21.7 11.6 64.0@1900 21.7 8.6 37 V1505-E 28.6@2200 22.0 10.8 65.3@1600 24.7 8.3 38 V1505-E 28.6@2100 22.3 10.4 70.9@1500 24.7 8.3 39 V1505-E 24.4@2000 22.3 10.4 70.9@1500 24.7 8.5 40 V1505-E 28.2@26000 20.5 11.9 68.2@1600 24.2 8.7 41 V1505-E 28.2@2600 20.5 11.9 66.5@1600 24.8 8.4	V1505-E01	V1505-E	35.5@3000	22.5	15.1	72.2@2200	24.8	10.0		!
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