California Environmental Protection Agency

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	3KBXL01.5BAD	1.123, 1.498	Diesel	5000
SPECIAL I	FEATURES & EMISSION		TYPICAL EQUIPMENT	APPLICATION
In	direct Diesel Injection, T	urbocharger	Loader, Other Industri	al 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	EXHAUST (g/kw-ł	nr)		O	PACITY (%	6)
POWER CLASS	STANDARD CATEGORY		нс	Nox	NMHC+Nox	со	PM	ACCEL	LUG	PEAK
19 <u><</u> KW < 37	Tier 1	STD	N/A	N/A	9.5	5.5	0.80	20	15	50
· <u>·</u> ·····		CERT			5.4	1.1	0.37	7	3	15

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 _____

4 14

_ day of December 2002.

Aller Lyons, Chief Mobile Source Operations Division

Engine Model S/ mary Form

attachment ps. 1.61 KUBOTA Corporation

Engine category: Nonroad CI

Manufacturer:

EPA Engine Famiy 3KBXL01.5BAD

Mfr Family Name: N/A Process Code: Running Change

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32.9@3000 31.0@2850 32.9@3000 44.3@3000 38.4@2400 44.3@3000	32.963000 28.2 14.2 65.092000 31.0 10.4 MA 31.0622850 27.6 13.2 65.5622000 30.3 10.2 WH 32.9633000 28.2 14.2 65.062000 31.0 10.4 WH 32.9633000 28.2 14.2 65.062000 31.0 10.4 WH 42.0622850 28.3 19.0 95.5622000 31.4 14.0 WH 42.0622850 28.3 19.0 87.5622000 30.3 13.4 WH 44.363000 28.3 19.0 87.5622000 30.3 13.5 WH 38.462400 28.3 19.0 78.3622000 30.3 13.5 WH 38.462400 28.3 19.0 78.3622000 30.3 13.5 WH 38.462400 28.3 19.0 78.3622000 30.3 13.5 WH 41.3623000 28.3 19.0 78.3622000 26.9 12.0 WH 41.3623000 28.3 19.0 78.3622000 26.9 12.0 WH 53.623000 28.3 19.0 78.3622000 26.9 12.0 WH 64.3623000 28.3 19.0 78.362200	2.Engine Model	3.ВНР@RPM 1odel (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	
31.0@2850 27.6 13.2 63.5@2000 30.3 10.2 32.9@3000 28.3 14.2 65.0@2000 31.0 10.4 42.0@2850 28.3 19.0 87.5@2000 30.0 13.4 44.3@3000 28.3 19.0 87.5@2000 30.3 13.4 38.4@2400 28.3 19.0 87.5@2000 30.3 13.5 44.3@3000 28.3 19.0 78.3@2000 30.3 13.5 44.3@3000 28.3 19.0 78.3@2000 26.9 12.0	31.0@2850 27.6 13.2 65.5@2000 30.3 10.2 32.9@3000 28.2 14.2 65.0@2000 31.4 14.0 42.0@2850 28.3 18.0 90.5@2000 31.4 14.0 44.3@3000 28.3 19.0 87.5@2000 30.0 13.4 38.4@2400 28.3 15.5 90.9@2000 30.3 13.4 44.3@3000 28.3 15.5 90.9@2000 30.3 13.4 44.3@3000 28.3 15.0 78.3@2000 20.3 13.4 44.3@3000 28.3 15.0 78.3@2000 26.5 12.0	D1105-T		28.2	14.2	65.0@2000	31.0	10.4		Ř
D1105-T.E 32.9@3000 28.2 14.2 65.0@2000 31.0 10.4 V1505-T.E 42.0@2850 28.3 18.0 90.5@2000 30.0 14.0 V1505-T.E 38.4@2400 28.3 19.0 87.5@2000 30.0 13.4 V1505-T.E 38.4@2400 28.3 15.5 90.9@2000 30.3 13.4 V1505-T.E 38.4@2400 28.3 15.0 78.3@2000 26.3 12.0 V1505-T.E 44.3@3000 28.3 19.0 78.3@2000 26.3 12.0 V1505-T.E 44.3@3000 28.3 19.0 78.3@2000 26.9 12.0	D1105-T.E 32.963000 28.2 14.2 65.06200 31.0 10.4 V1505-T.E 42.062850 28.3 19.0 87.562000 30.0 13.4 V1505-T.E 38.462400 28.3 19.0 87.5662000 30.0 13.4 V1505-T.E 38.462400 28.3 19.0 75.5 90.9662000 30.3 13.5 V1505-T.E 38.462400 28.3 19.0 78.362200 30.3 13.5 V1505-T.E 44.363000 28.3 19.0 78.362200 30.3 13.5 V1505-T.E 44.363000 28.3 19.0 78.362200 28.9 12.0	D1105-T		27.6	13.2	63.5@2000	30.3	10.2	-VIV	
V1505-T.E 42.0@2850 28.3 18.0 90.5@2000 31.4 14.0 V1505-T.E 38.4@2400 28.3 19.0 87.5@2000 30.0 13.4 V1505-T.E 38.4@2400 28.3 19.0 78.3@2000 26.9 12.0 V1505-T.E 44.3@3000 28.3 19.0 78.3@2000 26.9 12.0	V1505-T.E 42.0@2850 28.3 18.0 90.5@2000 31.4 14.0 V1505-T.E 38.4@2400 28.3 15.5 90.9@2000 30.3 13.4 V1505-T.E 44.3@3000 28.3 15.0 78.3@2000 26.9 12.0 V1505-T.E 44.3@3000 28.3 19.0 78.3@2000 26.9 12.0	D1105-T		28.2	14.2	65.0@2000	31.0	10.4	-H/H-	
V1505-T.E 44.3@3000 28.3 19.0 87.5@2000 30.0 13.4 V1505-T.E 38.4@2400 28.3 19.0 78.3@2000 36.3 13.5 V1505-T.E 44.3@3000 28.3 19.0 78.3@2000 26.3 12.0	V1505-1-E 41.3@3000 28.3 19.0 87.5@2000 30.0 13.4 V1505-1-E 38.4@2400 28.3 15.5 90.3@2000 30.3 13.5 V1505-1-E 44.3@3000 28.3 19.0 78.3@2000 26.9 12.0	V1505-T		28.3	18.0	90.5@2000	31.4	14.0	MA	
V1505-T.E $38.4 \oplus 2400$ 28.3 15.5 $90.9 \oplus 2000$ 30.3 13.5 V1505-T.E $44.3 \oplus 3000$ 28.3 19.0 $78.3 \oplus 2000$ 28.9 12.0 N1505-T.E $44.3 \oplus 3000$ 28.3 19.0 $78.3 \oplus 2000$ 28.9 12.0	-E 33.4@2400 28.9 15.5 90.9@2000 30.3 13.5 -E 44.3@3000 28.3 19.0 78.3@2000 26.9 12.0	V1505-T		28.3	19.0	87.5@2000	30.0	13.4	NIA	
V1505-T.E 44.3@3000 26.9 12.0	V1505-T.E 44.3@3000 28.3 19.0 78.3@2000 28.9 12.0	V1505-T		28.9	15.5	90.9@2000	30.3	13.5	ANA ANA	
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