

## **KUBOTA CORPORATION**

EXECUTIVE ORDER U-R-025-0129-2 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)		
2004	4KBXL03.8AAD	3.769	Diesel	8000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
Direct Diesel Injection, Turbocharger			Telescopic Material Handler and Other Industrial 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 POWER CLASS	EMISSION STANDARD		EXHAUST (g/kW-hr)				OPACITY (%)			
	CATEGORY		нс	NOx	NMHC+Nox	CO	PM	ACCEL	LUG	PEAK
37 <u>&lt;</u> kW < 75	Tier 2	STD	N/A	N/A	7.5	5.0	0.40	20	15	50
		CERT			6.4	1.6	0.35	6	3	13

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.

This Executive Order hereby supersedes Executive Order U-R-025-0129-1 dated May 14, 2003

Executed at El Monte, California on this \_\_\_\_\_\_ day of October 2003.

Allen Lyons, Chief

Mobile Source Operations Division

## Engine Model ? . mmary Form

KUBOTA Corporation Manufacturer:

Engine category:

Nonroad Cl 4KBXL03.8AAD EPA Engine Family.

4-K-028-0127-2

Mfr Family Name: N/A

Running Change Process Code:

rol 930	D7 +C	` -			-
8.Fuel Rate: 9.Emission Control lbs/hr)@peak torque Device Per SAE J1930	NAT DOT TO	¥	M/A	<b>₹</b>	¥₹X
8.Fuel Rate: (lbs/hr)@peak torque	24.3	23.6	23.6	23.6	24.2
7.Fuel Rate: mm/stroke@peak torque	72.5	70.5	70.5	70.5	72.2
6.Torque @ RPM (SEA Gross)	247.2@1500	239.7@1500	239.7@1500	239.7@1500	239.7@1500
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	37.8	37.8	35.6	32.8	30.4
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	65.0	65.0	66.3	66.7	64.7
3.BHP@RPM (SAE Gross)	97.6@2600	97.6@2600	94.7@2400	90.8@2200	82.7@2100
2.Engine Model	V3800-DI-T-ES	V3800-DI-T-ES	V3800-DI-T-ES	V3800-DI-T-ES	V3800-DI-T-ES
1.Engine Code	V3800-DI-T-ES01	V3800-DI-T-ES02	V3800-DI-T-ES03	V3800-DI-T-ES04	$\sqrt{v3800 ext{-DI-T-ES05}}$