



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)
2005	5KBXL02.0FCD	1.393, 1.499, 1.857, 1.999	Diesel	3000, 5000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Indirect Diesel Injection			Paver, Sweeper, and Transportation Refrigeration Unit	

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
8 ≤ kW < 19	Tier 2	STD	N/A	N/A	7.5	6.6	0.80	20	15	50
19 ≤ kW < 37	Tier 2	STD	N/A	N/A	7.5	5.5	0.60	20	15	50
		CERT	--	--	6.0	0.9	0.27	3	4	5

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 October 2004.

Allen Lyons, Chief
Mobile Source Operations Division

Engine Model Summary Form

Manufacturer: KUBOTA Corporation
Engine category: Nonroad CI
EPA Engine Family: 5KBXL02.0FCD
Mfr Family Name: N/A
Process Code: Running Change

Attachment
U-R-025-0192

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
D1403-ES01	D1403-ES	30.6@2800	27.2	12.8	71.9@1700	32.8	9.3	N/A
D1403-ES02	D1403-ES	26.7@2800	23.9	11.2	63.0@1500	27.4	6.9	N/A
D1403-ES03	D1403-ES	29.5@2600	27.7	12.1	69.3@1700	31.7	9.0	N/A
D1403-M-ES01	D1403-M-ES	29.0@2800	26.0	12.2	67.4@1500	30.8	7.7	N/A
D1503-ES01	D1503-ES	31.4@2700	28.6	12.9	75.1@1500	34.4	8.7	N/A
D1503-ES02	D1503-ES	24.8@2100	30.0	10.6	69.9@1500	32.0	8.0	N/A
D1503-ES03	D1503-ES	29.5@2600	27.6	12.0	65.5@1600	30.0	8.0	N/A
D1503-ES04	D1503-ES	32.9@2800	30.0	14.1	73.5@1600	33.6	9.0	N/A
D1503-M-ES01	D1503-M-ES	33.3@2700	30.5	13.8	77.9@1500	36.2	9.1	N/A
D1503-M-ES02	D1503-M-ES	27.4@2300	28.7	11.1	72.7@1500	33.3	8.4	N/A
D1503-M-ES03	D1503-M-ES	33.4@2800	30.5	14.3	75.2@1600	34.6	9.3	N/A
V1903-ES01	V1903-ES	41.6@2800	26.9	16.8	94.6@1700	32.3	12.3	N/A
V1903-ES02	V1903-ES	40.5@2700	27.0	16.3	91.4@1700	31.0	11.8	N/A
V1903-ES03	V1903-ES	37.4@2600	25.7	14.9	92.9@1500	31.7	10.6	N/A
V1903-ES04	V1903-ES	27.9@1900	25.5	10.8	79.1@1500	26.0	8.7	N/A
V1903-ES05	V1903-ES	39.2@2650	27.4	16.2	94.6@1700	32.3	12.3	N/A
V1903-ES06	V1903-ES	24.4@1700	25.6	9.7	72.4@1300	24.9	7.2	N/A
V1903-ES06e	V1903-ES	24.4@1700	25.6	9.7	72.4@1300	24.9	7.2	Electronic EC
V2003-M-ES01	V2003-M-ES	44.5@2800	30.0	18.8	100.1@1600	34.3	12.3	N/A
V2003-M-ES02	V2003-M-ES	42.1@2600	29.9	17.4	99.1@1600	34.1	12.2	N/A

Added