



Pursuant to the authority vested in California 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-14-012;

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)
2019	KKBXL02.4EKD	1.826, 2.435	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS		TYPICAL EQUIPMENT APPLICATION		
Electronic Direct Injection, Turbocharger, Exhaust Gas Recirculation, Electronic Control Module, Diesel Oxidation Catalyst, Periodic Trap Oxidizer		Loader, Tractor, Pump, Compressor, 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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kW-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
19 ≤ kW < 56	Tier 4 Final	OPTIONAL STD	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		CERT	--	--	3.2	0.04	0.003	--	--	--

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).

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for New 2011 and Later Tier 4 Off-Road Compression Ignition Engines, Part I-D" adopted October 20, 2005 and last amended October 25, 2012.

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 November 2018.

Annette Hebert
for Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

Engine Model Summary Form

EO# U-R-025-0832

Manufacturer: **KUBOTA Corporation**
 Engine category: **Nonroad CI**
 EPA Engine Family: **KKBXL02.4EKD**
 Mfr Family Name: **N/A**
 Process Code: **Running Change**

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Date: 3/5/2019

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
C2.4-CR-T-EF08	C2.4-CR-T-EF	57.1@2400	42.2	22.6	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
C2.4-CR-T-EF09	C2.4-CR-T-EF	52.3@2200	41.0	20.2	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
C2.4-CR-T-EF59	C2.4-CR-T-EF	52.3@2200	41.0	20.2	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
D1803-CR-T-EF01	D1803-CR-T-EF	48.9@2700	43.1	19.5	109.4@1600	46.1	12.4	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF01	V2403-CR-T-EF	67.3@2700	46.3	27.9	152.2@1600	48.7	17.4	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF02	V2403-CR-T-EF	64.2@2700	43.2	26.1	144.3@1600	46.0	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF03	V2403-CR-T-EF	60.1@2700	40.8	24.6	144.3@1600	46.0	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF04	V2403-CR-T-EF	60.5@2600	41.5	24.1	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF05	V2403-CR-T-EF	55.1@2600	39.9	23.2	134.7@1600	44.0	15.7	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF06	V2403-CR-T-EF	50.2@2600	36.5	21.2	121.1@1600	39.2	14.0	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF07	V2403-CR-T-EF	61.7@2600	42.3	24.6	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF08	V2403-CR-T-EF	57.1@2400	42.2	22.6	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF09	V2403-CR-T-EF	52.3@2200	41.0	20.2	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF10	V2403-CR-T-EF	61.8@2600	42.4	24.6	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF11	V2403-CR-T-EF	59.4@2500	42.3	23.6	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF12	V2403-CR-T-EF	50.4@2700	35.3	21.3	121.1@1600	39.0	13.9	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF13	V2403-CR-T-EF	52.2@2700	37.1	22.4	121.8@1600	40.4	14.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF14	V2403-CR-T-EF	60.5@2700	41.1	24.8	140.2@1600	45.1	16.1	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF15	V2403-CR-T-EF	57.9@2600	40.7	23.7	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF16	V2403-CR-T-EF	62.1@2700	42.5	25.7	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF17	V2403-CR-T-EF	66.1@2700	44.0	26.6	144.3@1600	46.0	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF18	V2403-CR-T-EF	62.5@2700	42.3	25.5	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF19	V2403-CR-T-EF	56.2@2700	38.6	23.3	131.5@1600	42.3	15.1	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF20	V2403-CR-T-EF	53.0@2700	37.2	22.5	123.8@1600	40.5	14.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF51	V2403-CR-T-EF	67.3@2700	46.3	27.9	152.2@1600	48.7	17.4	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF52	V2403-CR-T-EF	64.2@2700	43.2	26.1	144.3@1600	46.0	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF53	V2403-CR-T-EF	60.1@2700	40.8	24.6	144.3@1600	46.0	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF54	V2403-CR-T-EF	60.5@2600	41.5	24.1	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC

* new engine codes

1.8
2.435L

2.435L

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2.4352

V2403-CR-T-EF55	V2403-CR-T-EF	55.1@2600	39.9	23.2	134.7@1600	44.0	15.7	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF56	V2403-CR-T-EF	50.2@2600	36.5	21.2	121.1@1600	39.2	14.0	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF57	V2403-CR-T-EF	61.7@2600	42.3	24.6	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF58	V2403-CR-T-EF	57.1@2400	42.2	22.6	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF59	V2403-CR-T-EF	52.3@2200	41.0	20.2	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF60	V2403-CR-T-EF	61.8@2600	42.4	24.6	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF61	V2403-CR-T-EF	59.4@2500	42.3	23.6	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF62	V2403-CR-T-EF	50.4@2700	35.3	21.3	121.1@1600	39.0	13.9	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF63	V2403-CR-T-EF	52.2@2700	37.1	22.4	121.8@1600	40.4	14.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF64	V2403-CR-T-EF	60.5@2700	41.1	24.8	140.2@1600	45.1	16.1	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF65	V2403-CR-T-EF	57.9@2600	40.7	23.7	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EF66	V2403-CR-T-EF	62.1@2700	42.5	25.7	144.3@1600	46.2	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC

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Date: 3/5/2019