

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-19-095;

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)
2021	MKBXL02.4EKD	1.826, 2.435	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Direct Injection, Exhaust Gas Recirculation, Electronic Control Module, Periodic Trap Oxidizer, Diesel Oxidation Catalyst			Loader, Tractor, Pump, Compressor, Asphalt Finisher, Carrier, Construction Machinery, Forklift, Garden Tractor, Mini Backhoe, Mower, Roller, Skid Steer Loader, Nonroad Sweeper, Welder, Wood Chipper, Excavator, 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 (NO_x), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NO_x), 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	NO _x	NMHC+NO _x	CO	PM	ACCEL	LUG	PEAK
19 ≤ kW < 56	Tier 4 Final	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 which include engines from different power categories in the same engine family, the manufacturer is complying with the more stringent set of standards from the 37 ≤ kW < 56 power category in conformance with the incorporated 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 1-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 on this 25th day of November 2020.



Allen Lyons, Chief
 Emissions Certification and Compliance Division

Attachment: Engine Models

EO #: U-R-025-0948

Family: MKBXL02.4EKD

Attachment Last Revised: 11/18/2020

Model	Code	Trim	Config	Displacement	Displacement - Units	Peak Power	Peak Power - Units	Peak Power - Speed (rpm)	Peak Power - Fueling	Peak Power - Fuel Units	Peak Torque	Peak Torque - Units	Peak Torque - Speed (rpm)	Peak Torque - Fuel	Peak Torque - Fuel Units	OBD	GHG	Special	Notes
C2.4-CR-T-EF	C2.4-CR-T-EF08		I-4	2.435	Liters	42.6	kilowatt	2400	42.2	mm3/stroke	195.6	N-m	1500	46.4	mm3/stroke	N/A	N/A	N/A	N/A
C2.4-CR-T-EF	C2.4-CR-T-EF09		I-4	2.435	Liters	39	kilowatt	2200	41	mm3/stroke	195.6	N-m	1500	46.4	mm3/stroke	N/A	N/A	N/A	N/A
C2.4-CR-T-EF	C2.4-CR-T-EF59		I-4	2.435	Liters	39	kilowatt	2200	41	mm3/stroke	195.6	N-m	1500	46.4	mm3/stroke	N/A	N/A	N/A	N/A
D1803-CR-T-EF	D1803-CR-T-EF01		I-3	1.826	Liters	36.5	kilowatt	2700	43.1	mm3/stroke	148.3	N-m	1600	46.1	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF01		I-4	2.435	Liters	50.2	kilowatt	2700	46.3	mm3/stroke	206.4	N-m	1600	48.7	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF02		I-4	2.435	Liters	47.9	kilowatt	2700	43.2	mm3/stroke	195.6	N-m	1600	46	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF03		I-4	2.435	Liters	44.8	kilowatt	2700	40.8	mm3/stroke	195.6	N-m	1600	46	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF04		I-4	2.435	Liters	45.1	kilowatt	2600	41.5	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF05		I-4	2.435	Liters	41.1	kilowatt	2600	39.9	mm3/stroke	182.6	N-m	1600	44	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF06		I-4	2.435	Liters	37.4	kilowatt	2600	36.5	mm3/stroke	164.2	N-m	1600	39.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF07		I-4	2.435	Liters	46	kilowatt	2600	42.3	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF08		I-4	2.435	Liters	42.6	kilowatt	2400	42.2	mm3/stroke	195.6	N-m	1500	46.4	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF09		I-4	2.435	Liters	39	kilowatt	2200	41	mm3/stroke	195.6	N-m	1500	46.4	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF10		I-4	2.435	Liters	46.1	kilowatt	2600	42.4	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF11		I-4	2.435	Liters	44.3	kilowatt	2500	42.3	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF12		I-4	2.435	Liters	37.6	kilowatt	2700	35.3	mm3/stroke	164.2	N-m	1600	39	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF13		I-4	2.435	Liters	38.9	kilowatt	2700	37.1	mm3/stroke	165.2	N-m	1600	40.4	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF14		I-4	2.435	Liters	45.1	kilowatt	2700	41.1	mm3/stroke	190.1	N-m	1600	45.1	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF15		I-4	2.435	Liters	43.2	kilowatt	2600	40.7	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF16		I-4	2.435	Liters	46.3	kilowatt	2700	42.5	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF17		I-4	2.435	Liters	49.3	kilowatt	2700	44	mm3/stroke	195.6	N-m	1600	46	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF18		I-4	2.435	Liters	46.6	kilowatt	2700	42.3	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF19		I-4	2.435	Liters	41.9	kilowatt	2700	38.6	mm3/stroke	178.3	N-m	1600	42.3	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF20		I-4	2.435	Liters	39.5	kilowatt	2700	37.2	mm3/stroke	167.8	N-m	1600	40.5	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF51		I-4	2.435	Liters	50.2	kilowatt	2700	46.3	mm3/stroke	206.4	N-m	1600	48.7	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF52		I-4	2.435	Liters	47.9	kilowatt	2700	43.2	mm3/stroke	195.6	N-m	1600	46	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF53		I-4	2.435	Liters	44.8	kilowatt	2700	40.8	mm3/stroke	195.6	N-m	1600	46	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF54		I-4	2.435	Liters	45.1	kilowatt	2600	41.5	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF55		I-4	2.435	Liters	41.1	kilowatt	2600	39.9	mm3/stroke	182.6	N-m	1600	44	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF56		I-4	2.435	Liters	37.4	kilowatt	2600	36.5	mm3/stroke	164.2	N-m	1600	39.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF57		I-4	2.435	Liters	46	kilowatt	2600	42.3	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF58		I-4	2.435	Liters	42.6	kilowatt	2400	42.2	mm3/stroke	195.6	N-m	1500	46.4	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF59		I-4	2.435	Liters	39	kilowatt	2200	41	mm3/stroke	195.6	N-m	1500	46.4	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF60		I-4	2.435	Liters	46.1	kilowatt	2600	42.4	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF61		I-4	2.435	Liters	44.3	kilowatt	2500	42.3	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF62		I-4	2.435	Liters	37.6	kilowatt	2700	35.3	mm3/stroke	164.2	N-m	1600	39	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF63		I-4	2.435	Liters	38.9	kilowatt	2700	37.1	mm3/stroke	165.2	N-m	1600	40.4	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF64		I-4	2.435	Liters	45.1	kilowatt	2700	41.1	mm3/stroke	190.1	N-m	1600	45.1	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF65		I-4	2.435	Liters	43.2	kilowatt	2600	40.7	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A
V2403-CR-T-EF	V2403-CR-T-EF66		I-4	2.435	Liters	46.3	kilowatt	2700	42.5	mm3/stroke	195.6	N-m	1600	46.2	mm3/stroke	N/A	N/A	N/A	N/A