EXECUTIVE ORDER U-R-025-0907 New Off-Road Compression-Ignition Engines

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	MKBXL.719NCB	0.479, 0.719	Diesel			
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
	Indirect Diesel Inje	ection	Transport Refrigeration Unit			

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	EMISSION		EXHAUST (g/kW-hr)				OPACITY (%)			
POWER	STANDARD		NMHC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
kW < 19	Tier 4 Final	OPTIONAL STD	N/A	N/A	7.5	6.6	0.40	20	15	50
		CERT			4.9	2.6	0.26	11	13	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).

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 1-D" adopted October 20, 2005 and last amended October 25, 2012.

BE IT FURTHER RESOLVED: Engines certified under this Executive Order shall not be produced before January 2, 2020.

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 2774

_ day of September 2019.

Allen Lyens, Chief

Emissions Certification and Compliance Division

Engine Model Summary Form

EO#U-R-025-0907 Date: 9/6/2019

Manufacturer:

KUBOTA Corporation

Engine category:

Nonroad CI

EPA Engine Family:

MKBXL.719NCB

New Submission

Mfr Family Name:

N/A

Process Code:

Attachment page 1 of 1

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	
D722-EF01	D722-EF	12.7@2400	13.7	5.5	28.4@2100	14.0	4.9	EM, IFI	
D722-EF01e	D722-EF	12.7@2400	13.7	5.5	28.4@2100	14.0	4.9	EM, IFI	
D722-EF12	D722-EF	12.7@2400	13.7	5.5	28.4@2100	14.0	4.9	EM, IFI	
D722-EF12e	D722-EF	12.7@2400	13.7	5.5	28.4@2100	14.0	4.9	EM, IFI	
Z482-EF01	Z482-EF	13.3@3600	15.4	6.2	22.5@2600	16.7	4.9	EM, IFI	
Z482-EF02	Z482-EF	Z482-EF 8.7@2400	14.0	3.8	19.0@1900	. 13.6	2.9	EM, IFI	
Z482-EF02e	Z482-EF	8.7@2400	14.0	3.8	19.0@1900	13.6	2.9	EM, IFI	
Z482-EF03	Z482-EF	7.9@2200	13.8	3.4	18.9@1900	13.5	2.9	EM, IFI EM, IFI EM, IFI	
Z482-EF03e	Z482-EF	7.9@2200	13.8	3.4	18.9@1900	13.5	2.9		
Z482-EF05	Z482-EF	9.5@2600	14.3	4.2	19.8@2200	14.3	3.5		
Z482-EF06	Z482-EF	8.7@2400	14.0 3.8 19.0@19		19.0@1900	13.6 2.9	2.9	EM, IFI	
Z482-EF06e	Z482-EF	8.7@2400	00 14.0 3.8 19.0@1900 13.6	14.0	4.0 3.8 19.0@1900 13.6		14.0 3.8 19.0@1900 13.6 2.9	2.9	EM, IFI
Z482-EF07	Z482-EF	7.9@2200	13.8	3.4	18.9@1900	13.5	2.9	EM, IFI	
Z482-EF07e	Z482-EF	7.9@2200	13.8	3.4	18.9@1900	13.5	2.9	EM, IFI	