California Environmental Protection Agency **Air Resources Board**	**KUBOTA Corporation**	**EXECUTIVE ORDER U-R-025-0745** 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-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)
2017	HKBXL03.8AMD	3.77	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Exhaust Gas Recirculation, Charge Air Cooler, Electronic Control Module, Periodic Trap Oxidizer, Diesel Oxidation Catalyst, Selective Catalytic Reduction – Urea, Ammonia Oxidation Catalyst	Loader, Tractor, Forklift, Roller, Skid Steer Loader

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
56 ≤ kW < 130	Tier 4 Final	OPTIONAL STD	0.19	0.40	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.02	0.16	--	0.02	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 26th day of January 2017.

FOR Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division

EO# U-R-025-0745

Date: 1/13/2017

Engine Model Summary Form

Manufacturer: **KUBOTA Corporation**
Engine category: **Nonroad CI**
EPA Engine Family: **HKBXL03.8AMD**
Mfr Family Name: **N/A**
Process Code: **New Submission**

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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
C3.8-CR-TI-EV03	C3.8-CR-TI-EV	109.7@2400	75.3	40.4	279.8@1500	84.2	28.2	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
C3.8-CR-TI-EV12	C3.8-CR-TI-EV	96.7@2400	66.8	35.8	243.4@1500	73.8	24.7	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
D3.8J-CR-TI-EV02	D3.8J-CR-TI-EV	114.1@2600	73.6	42.8	279.8@1500	84.2	28.2	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
D3.8J-CR-TI-EV04	D3.8J-CR-TI-EV	106.6@2200	78.8	38.8	279.8@1500	84.2	28.2	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV01	V3800-CR-TI-EV	116.9@2600	76.5	44.5	286.3@1500	87.5	29.3	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV02	V3800-CR-TI-EV	114.1@2600	73.6	42.8	279.8@1500	84.2	28.2	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV03	V3800-CR-TI-EV	109.7@2400	75.3	40.4	279.8@1500	84.2	28.2	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV04	V3800-CR-TI-EV	106.6@2200	78.8	38.8	279.8@1500	84.2	28.2	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV05	V3800-CR-TI-EV	114.1@2600	74.1	43.1	279.8@1500	84.5	28.3	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV06	V3800-CR-TI-EV	104.5@2600	68.0	39.5	255.3@1500	77.1	25.9	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV07	V3800-CR-TI-EV	113.2@2600	73.5	42.7	268.3@1500	81.0	27.2	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV08	V3800-CR-TI-EV	108.2@2600	70.5	41.0	259.4@1500	78.4	26.3	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV09	V3800-CR-TI-EV	105.7@2400	73.2	39.3	267.4@1500	80.8	27.1	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV10	V3800-CR-TI-EV	95.1@2600	62.5	36.3	231.4@1500	70.8	23.7	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV11	V3800-CR-TI-EV	92.5@2400	64.5	34.6	243.8@1500	74.4	24.9	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV12	V3800-CR-TI-EV	96.7@2400	66.8	35.8	243.4@1500	73.8	24.7	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV13	V3800-CR-TI-EV	94.9@2400	65.8	35.3	255.9@1500	77.1	25.9	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV14	V3800-CR-TI-EV	110.2@2600	71.5	41.6	262.1@1500	79.2	26.6	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX
V3800-CR-TI-EV15	V3800-CR-TI-EV	97.1@2600	63.7	37.0	235.4@1500	72.0	24.1	EM, DFI, TC, EGR, CAC, ECM, PTOX, DOC, SCR, AMOX