## **KUBOTA Corporation**

EXECUTIVE ORDER U-R-025-0456 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-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)
2010	AKBXL03.8AAD	3.769	Diesel	8000
	FEATURES & EMISSION		TYPICAL EQUIPMENT A	
Me Ele	chanical Direct Injection, ectronic Control Module ( Exhaust Gas Recirc	Some Model).	Tractor, Compressor, G Other Industrial Eq	enerator Set, uipment

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	EMISSION			E	XHAUST (g/kW-l	hr)		OF	PACITY (%	<b>6</b> )
POWER CLASS	STANDARD CATEGORY		нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
56 <u>&lt;</u> kW < 75	Tier 3	STD	N/A	N/A	4.7	5.0	0.40	20	15	50
		CERT			4.2	0.9	0.32	10	3	20

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

day of December 2009.

Annette Hebert, Chief

Mobile Source Operations Division

## **Engine Model Summary Form**

**KUBOTA** Corporation Nonroad Cl Engine category: Manufacturer:

AKBXL03.8AAD EPA Engine Family.

Mfr Family Name: N/A

Attachment

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U-R-025-0456 12/15/2009

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Engine Model         3.8Hp@picpt         A care Rate (account) & care Rate (account)         A care (account)	rocess Code:	New Submission			,					
V3800-DI-TET         99.2@2800         67.0         38.9         281.8@1400         80.0         25.0         T C EMEGR           V3800-DI-TET         99.2@2800         67.5         38.9         239.7@1600         73.0         26.1         EMEGR           V3800-DI-TET         88.6@2800         67.5         39.2         228.2@1600         73.0         26.1         EMEGR           V3800-DI-TET         88.6@2800         60.5         35.2         213.2@1600         72.0         25.8         EMEGR           V3800-DI-TET         92.0@2400         66.0         35.4         222.3@1600         72.0         25.8         EMEGR           V3800-DI-TET         85.0@2400         57.0         30.8         217.6@1600         67.0         25.0         EMEGR           V3800-DI-TET         85.0@2400         61.0         30.0         222.1@1600         67.0         22.9         EMEGR           V3800-DI-TET         85.0@2400         61.0         30.0         228.6@1600         70.0         25.4         EMEGR           V3800-DI-TET         80.0@2400         65.0         34.9         228.6@1600         70.0         25.0         V         EM.EGR           V3800-DI-TET         80.0@2400         65.0 </th <th>1.Engine Code</th> <th>2.Engine Model</th> <th>3.BHP@RPM (SAE Gross)</th> <th></th> <th>5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)</th> <th>6.Torque @ RPM (SEA Gross)</th> <th>7.Fuel Rate: mm/stroke@peak torque</th> <th>8.Fuel Rate: (lbs/hr)@peak torque</th> <th>9.Emission Control Device Per SAE J19:</th> <th>30_</th>	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)		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 J19:	30_
99.2@2600         67.0         38.9         239.7@1600         73.0         26.1         EM.EGR           98.7@260         67.5         39.2         238.2@1600         73.0         26.1         EM.EGR           88.6@260         60.5         35.2         231.3@1600         66.5         23.8         EM.EGR           92.0@2400         66.0         35.4         222.3@1600         72.0         25.8         EM.EGR           95.0@2400         66.0         35.4         222.3@1600         70.0         25.8         EM.EGR           81.0@2400         59.0         31.7         228.6@1600         70.0         25.0         EM.EGR           75.0@2400         54.0         29.0         202.1@160         64.0         22.9         EM.EGR           89.4@2600         61.0         30.0         228.6@1600         71.0         25.4         EM.EGR           90.0@2400         65.0         34.9         228.6@1600         70.0         25.0         V. EM.EGR           90.0@2400         65.0         34.9         228.6@1600         70.0         25.0         V. EM.EGR	73800-DI-T-ET01	V3800-DI-T-ET	99.2@2600	0.79	38.9	261.8@1400	80:0		T C EM,EGR	Modulinia
V3800-DI-TET     98.7@2800     67.5     39.2     238.2@1600     73.0     26.1     EM,EGR       V3800-DI-TET     88.6@2800     60.5     35.2     213.2@1600     66.5     23.8     EM,EGR       V3800-DI-TET     92.0@2400     68.0     35.4     223.3@1600     72.0     25.8     EM,EGR       V3800-DI-TET     85.0@2400     66.0     35.4     223.3@1600     72.0     25.8     EM,EGR       V3800-DI-TET     81.0@2400     57.0     30.6     217.6@1600     67.0     24.0     EM,EGR       V3800-DI-TET     82.6@2200     61.0     29.0     202.1@1600     67.0     22.9     EM,EGR       V3800-DI-TET     82.6@2200     61.5     36.7     218.6@1600     71.0     25.4     EM,EGR       V3800-DI-TET     89.4@2800     61.5     36.7     218.6@1600     77.0     25.9     EM,EGR       V3800-DI-TET     89.4@2800     65.0     34.9     228.6@1600     70.0     25.0     V     EM,EGR       V3800-DI-TET     90.0@2400     65.0     34.9     228.6@1600     70.0     25.0     V     EM,EGR	/3800-DI-T-ET02	V3800-DI-T-ET	99.2@2600	67.0	38.9	239.7@1600	73.0		, EM,EGR	
V3800-DI-T-ET       88.6@2600       60.5       35.2       213.2@1600       66.5       23.8       EM,EGR         V3800-DI-T-ET       92.0@2400       66.0       35.4       232.3@1600       72.0       25.8       EM,EGR         V3800-DI-T-ET       92.0@2400       66.0       35.4       232.3@1600       72.0       25.8       EM,EGR         V3800-DI-T-ET       85.0@2400       57.0       30.6       217.6@1600       67.0       24.0       EM,EGR         V3800-DI-T-ET       82.6@2200       61.0       30.0       228.6@1600       71.0       25.4       EM,EGR         V3800-DI-T-ET       89.4@2800       61.5       35.7       216.1@1600       67.5       24.1       EM,EGR         V3800-DI-T-ET       89.4@2800       61.5       34.9       228.6@1600       71.0       25.0       ✓       EM,EGR         V3800-DI-T-ET       90.0@2400       65.0       34.9       228.6@1600       70.0       25.0       ✓       EM,EGR	/3800-DI-T-ET03	V3800-DI-T-ET	98.7@2600	67.5	39.2	238.2@1600	73.0	26.1	EM,EGR	:
V3800-DI-TET     92.0@2400     66.0     35.4     232.3@1600     72.0     25.8     EM,EGR       V3800-DI-TET     92.0@2400     66.0     35.4     232.3@1600     72.0     25.8     EM,EGR       V3800-DI-TET     85.0@2400     55.0     31.7     228.6@1600     70.0     25.0     EM,EGR       V3800-DI-TET     81.0@2400     57.0     30.6     217.6@1600     64.0     22.9     EM,EGR       V3800-DI-TET     82.6@2200     61.0     30.0     228.6@1600     77.0     25.4     EM,EGR       V3800-DI-TET     89.4@2800     61.5     35.7     216.1@160     67.5     24.1     EM,EGR       V3800-DI-TET     90.0@2400     65.0     34.9     228.6@1600     77.0     25.0     EM,EGR       V3800-DI-TET     90.0@2400     65.0     34.9     228.6@1600     70.0     25.0     EM,EGR	73800-DI-T-ET04	V3800-DI-T-ET	88.6@2600	60.5	35.2	213.2@1600	66.5	23.8	EM,EGR	
V3800-DI-TET       92.0@2400       66.0       35.4       232.3@1600       72.0       25.8       EM.Electronic J.E.         √3800-DI-TET       85.0@2400       59.0       31.7       228.6@1600       70.0       25.0       EM.EGR         √3800-DI-TET       81.0@2400       57.0       30.6       217.6@1600       67.0       24.0       EM.EGR         √3800-DI-TET       75.0@2400       64.0       29.0       202.1@4600       64.0       22.9       EM.EGR         √3800-DI-TET       89.4@2600       61.5       36.7       218.6@1600       77.0       25.4       EM.EGR         √3800-DI-TET       90.0@2400       65.0       34.9       228.6@1600       70.0       25.0       √       EM.EGR	/3800-DI-T-ET05	V3800-DI-T-ET	92.0@2400	0.99	35.4	232.3@1600	72.0	25.8	EM,EGR	
v3800-DI-T-ET     85.0@2400     59.0     31.7     228.6@1600     70.0     25.0       v3800-DI-T-ET     81.0@2400     57.0     30.6     217.6@1600     67.0     24.0       v3800-DI-T-ET     75.0@2400     64.0     29.0     202.1@1600     64.0     22.9       v3800-DI-T-ET     82.6@2200     61.0     30.0     228.6@1600     71.0     25.4       v3800-DI-T-ET     89.4@2600     61.5     35.7     216.1@1600     67.5     24.1       v3800-DI-T-ET     90.0@2400     65.0     34.9     228.6@1600     70.0     25.0     √	3800-DI-T-ET05e	V3800-DI-T-ET	92.0@2400	0.99	35.4	232.3@1600	72.0	25.8	EM, Electronic	m
V3800-DI-T-ET       81.0@2400       57.0       30.6       217.6@1600       67.0       24.0         V3800-DI-T-ET       75.0@2400       64.0       29.0       202.1@1600       64.0       22.9         V3800-DI-T-ET       82.6@2200       61.0       30.0       228.6@1600       71.0       25.4         V3800-DI-T-ET       89.4@2600       65.0       34.9       228.6@1600       70.0       25.0         V3800-DI-T-ET       90.0@2400       65.0       34.9       228.6@1600       70.0       25.0	/3800-DI-T-ET06	V3800-DI-T-ET	85.0@2400	29.0	21.6	228.6@1600	70.0	25.0	EM,EGR	_
1       V3800-DI-TET       75.0@2400       54.0       29.0       202.1@1600       64.0       22.9         1       V3800-DI-TET       82.6@2200       61.0       30.0       228.6@1600       71.0       25.4         1       V3800-DI-TET       89.4@2600       61.5       35.7       216.1@1600       67.5       24.1         V3800-DI-TET       90.0@2400       65.0       34.9       228.6@1600       70.0       25.0       ▼	/3800-DI-T-ET07	V3800-DI-T-ET	81.0@2400	57.0	30.6	217.6@1600	67.0	24.0	EM,EGR	
v3800-DI-T-ET       82.6@2200       61.0       30.0       228.6@1600       71.0       25.4         v3800-DI-T-ET       89.4@2800       61.5       34.9       228.6@1600       70.0       25.0       ▼         v3800-DI-T-ET       90.0@2400       65.0       34.9       228.6@1600       70.0       25.0       ▼	73800-DI-T-ET08	V3800-DI-T-ET	75.0@2400	54.0	29.0	202.1@1600	64.0	22.9	EM,EGR	
V3800-DI-T-ET 89.4@2600 61.5 35.7 216.1@1600 67.5 24.1 V3800-DI-T-ET 90.0@2400 65.0 34.9 228.6@1600 70.0 25.0   V3800-DI-T-ET 90.0 90.0 90.0 90.0 90.0 90.0 90.0 90.	/3800-DI-T-ET09	V3800-DI-T-ET	82.6@2200	61.0	30.0	228.6@1600	71.0	25.4	EM,EGR	
V3800-DI-T-ET 90.0@2400 65.0 34.9 228.6@1600 70.0 25.0 ↓	/3800-DI-T-ET10	V3800-DI-T-ET	89.4@2600	61.5	35.7	216.1@1600	67.5	24.1	EM,EGR	
	/3800-DI-T-ET11	V3800-DI-T-ET	90.0@2400	65.0	34.9	228.6@1600	70.0	25.0	↓ EM,EGR	-7
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