

KUBOTA Corporation

EXECUTIVE ORDER U-R-025-0437 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	AKBXL02.0FCD	1.499, 1.999	Diesel	5000						
	FEATURES & EMISSION O		TYPICAL EQUIPMENT APPLICATION							
	Indirect Diesel Inje	ction	Tractor, Compressor, Generator Set, Other Industrial Equipment							

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	I			EXHAUST (g/kw		OPACITY (%)					
POWER CLASS	STANDARD CATEGORY		нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK		
8 <u><</u> kW < 37	Tier 4 Interim	OPTIONAL STD	N/A	N/A	7.5	5.5	0.30	20	15	50		
		CERT		-	5.8	1.0	0.13	2	3	3		

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 2008 and Later Tier 4 Off-Road Compression-Ignition Engines, Part I-C" adopted October 20, 2005.

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 Manufacturer:

Engine category: Nonroad Cl
EPA Engine Family: AKBXL02.0FCD

Mfr Family Name: N/A

New Submission Process Code:

Attachment

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Date: 12/16/2009

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8.Fuel Rate: 9.Emission Control (lbs/hr)@peak torque Device Per SAE J1930	EM IDI	EM	EM 🗸																				
8.Fuel Rate: (lbs/hr)@peak torque	8.7	8.5	8.7	8.7	8.7	8.5	8.5	8.1	11.9	11.8	11.7	11.8	11.8	11.8	11.7	11.7	10.8						
7.Fuel Rate: mm/stroke@peak torque	32.4	31.8	32.4	32.4	32.4	31.8	31.8	32.4	33.3	32.9	32.7	32.9	32.9	32.9	32.7	32.7	32.1		and the second s	-			
6.Torque @ RPM (SEA Gross)	70.0@1600	68.8@1600	70.0@1600	70.0@1600	70.0@1600	68.8@1600	68.8@1600	70.0@1500	97.3@1600	96.1@1600	94.5@1600	96.1@1600	96.1@1600	96.1@1600	94.5@1600	94.5@1600	93.7@1500						
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	13.8	10.1	13.2	12.6	12.1	11.3	10.7	13.0	18.5	18.5	13.7	17.6	16.7	15.9	15.2	14.4	16.8						
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	29.4	27.5	29.2	29.0	28.8	28.0	27.7	27.7	29.6	29.6	27.8	29.2	28.7	28.5	28.3	28.1	27.8						
3.BHP@RPM (SAE Gross)	31.9@2800	25.1@2200	30.7@2700	29.6@2600	28.4@2500	27.4@2400	26.1@2300	30.0@2800	43.7@2800	43.7@2800	34.5@2200	42.2@2700	40.6@2600	39.2@2500	37.5@2400	35.9@2300	40.2@2700						
2.Engine Model	D1503-M-ET	V2003-M-ET																					
1.Engine Code	D1503-M-ET01	D1503-M-ET02	D1503-M-ET03	D1503-M-ET04	D1503-M-ET05	D1503-M-ET06	D1503-M-ET07	D1503-M-ET08	V2003-M-ET01	V2003-M-ET02	V2003-M-ET03	V2003-M-ET04	V2003-M-ET05	V2003-M-ET06	V2003-M-ET07	V2003-M-ET08	V2003-M-ET09					AND LAKE AND ADDRESS OF THE PARTY OF THE PAR	