KUKJE MACHINERY CO.

EXECUTIVE ORDER U-R-046-0021 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 engine and emission control system 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)			
2008	8KMCL0.98A35	0.98	Diesel				
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION				
	Indirect Diesel Inje	ection	Crane, Loader, Tractor, Dozer, Pump, Compressor				

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 POWER CLASS	EMISSION STANDARD CATEGORY	EXHAUST (g/kw-hr)				OPACITY (%)				
			нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
8 ≤ kW < 19	Tier 4 Final	STD	N/A	N/A	7.5	6.6	0.40	20	15	50
		CERT			5.9	0.8	0.32	10	9	12

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 May 2008.

Annette Hebert, Chief

Mobile Source Operations Division

12-R-046-002(

Manufacturer: Kukje Machinery Co., EPA Mnfr:1700

Engine category: Nonroad CI

EPA Engine Family: 8KMCL0.98A35

Mfr Family Name: A900N1

Process Code: New Submission

	4 -		(4.) (4.)
8.Fuel Rate: 9.Emission Control lbs/hr)@peak torque Device Per SAE J1930	IDI)EM	IDI,EM	
8.Fuel Rate: (lbs/hr)@peak torque	6.8	6.1	
7.Fuel Rate: mm/stroke@peak torque	20,6	20.5	
6.Torque @ RPM (SEA Gross)	43.2@2000	43.0@1800	
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	8.9	8.3	
4.Fuel Rate: 5.Fuel Rate: mm/stroke @ peak HP (lbs/hr) @ peak HP (for diesel only) (for diesels only)	19.4	17.9	
3.BHP@RPM (SAE Gross)	20@2800	18.5@2600	
1.Engine Code 2.Engine Model	N/A A900N1 20@2800	N/A A900N2 18.5@2600	
1.Engine Code	N/A	N/A	