

## **KUKJE MACHINERY CO.**

EXECUTIVE ORDER U-R-046-0050 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	AKMCL1.17A33	1.175	Diesel	5,000			
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		EXHAUST (g/kW-hr)					OPACITY (%)		
	STANDARD CATEGORY		нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
8 ≤ kW < 19	Tier 4	STD	N/A	N/A	7.5	6.6	0.40	20	15	50
		CERT			5.7	1.0	0.32	9	9	9

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 \_\_\_\_

Annette Hebert, Chief

) Mobile Source Operations Division

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## **Engine Model Summary Form**

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Manufacturer:

Kukje Machinery Co., EPA Mnfr:1700

TTACHMENT

Engine category:

Nonroad Cl

EPA Engine Family: AKMCL1.17A33

Mfr Family Name: A1100N1

Process Code:

**New Submission** 

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
A1100N1	25@2800	24.2	11.2	53.9@2000	25.8	8.5	IDI,EM
A1100N2	24@2600	23.7	10.2	57.3@1700	28.8	8.1	IDI,EM
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	A1100N1	2.Engine Model (SAE Gross) A1100N1 25@2800	2.Engine Model         3.BHP@RPM (SAE Gross)         mm/stroke @ peak HP (for diesel only)           A1100N1         25@2800         24.2	2.Engine Model       3.BHP@RPM (SAE Gross)       mm/stroke @ peak HP (for diesel only)       (lbs/hr) @ peak HP (for diesels only)         A1100N1       25@2800       24.2       11.2         A1100N2       24@2600       23.7       10.2	2.Engine Model         3.BHP@RPM (SAE Gross)         mm/stroke @ peak HP (for diesel only)         (lbs/hr) @ peak HP (for diesels only)         6.Torque @ RPM (SEA Gross)           A1100N1         25@2800         24.2         11.2         53.9@2000           A1100N2         24@2600         23.7         10.2         57.3@1700	2.Engine Model         3.BHP@RPM (SAE Gross)         mm/stroke @ peak HP (for diesels only)         (for diesels only)         6.Torque @ RPM (SEA Gross)         mm/stroke@peak torque           A1100N1         25@2800         24.2         11.2         53.9@2000         25.8           A1100N2         24@2600         23.7         10.2         57.3@1700         28.8	2.Engine Model         3.BHP@RPM (SAE Gross)         mm/stroke @ peak HP (for diesels only)         (Ibs/hr) @ peak HP (SEA Gross)         6.Torque @ RPM (SEA Gross)         mm/stroke@peak torque         8.Fuel Rate: (Ibs/hr)@peak torque           A1100N1         25@2800         24.2         11.2         53.9@2000         25.8         8.5           A1100N2         24@2600         23.7         10.2         57.3@1700         28.8         8.1

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