KUKJE Machinery Co.

EXECUTIVE ORDER U-R-046-0001

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)							
2004	4KMCL1.46A32	1.461	Diesel	5000							
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION								
*-	Indirect Diesel Inje	ction	Crane, Loader, Tractor, Dozer, Pump, Compressor and Othe 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 POWER	EMISSION STANDARD		EXHAUST (g/kw-hr) OPACITY (%)										
CLASS	CATEGORY		нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK			
19 ≤ kW < 37	Tier 2	STD	N/A	N/A	7.5	5.5	0.60	20	15	50			
		CERT			6.0	2.1	0.32	4	4	5			

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 February 2004.

Allen Lyons, Chief

Mobile Source Operations Division

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Engine Model Summary Form AMACAMENT PG (A)

U-R-046-0001

KUKJE Machinery Co., EPA Mnfr:1700 Manufacturer:

Nonroad CI Engine category:

EPA Engine Family. 4KMCL.1.46A32

Mfr Family Name: A1400N1

New Submission Process Code:

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9.Emission Control Device Per SAE J1930	IDI, EM	IDI, EM	IDI, EM			The second secon	And the second s	The second secon			od Fancier (All marco comment from the Filment Francisco Comment of State Comment			- Comment to control promotive profits to the control	Communication of Communication (Company) and the Communication (Communication) and the Communication (Commun	and the second consistency of the second consistency of the
8.Fuel Rate: (lbs/hr)@peak torque	9.1	7.8	7.8	THE THE PERSON NAMED IN TH		CHI PORT TRATA TRABANTA MPO III MOOT BARK TRABANTATA A BOOM	Colonial management of the colonial col	The fact the flat on all a second of the continuous second of the conti								
7.Fuel Rate: mm/stroke@peak torque	33.5	29.0	29.0			crissimals that the consequence of the consequence committee consequence	comment of the second of the company of the second of the									
6.Torque @ RPM (SEA Gross)	70.5@1600	70.0@1600	70.0@1600			AND MANAGEMENT THROUGH THROUGH THAT THE STATE OF THE STAT	the selection of the commendation and the second comments of the sec									
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	13.7	10.7	10.1	Control conference to the following the second to the control to t		en er er en er er en								-		
4.Fuel Rate: mm/stroke @ peak HP (for dieset only)	29.0	25.0	23.0		et same	CHAN TATA O CAMADA A CAMADATA CAMADANA A CAMADANA A CAMADANA A CAMADA CAMADA CAMADA CAMADA CAMADA CAMADA CAMADA										
3.BHP@RPM (SAE Gross)	31@2800	30@2600	29@2600						:			:			; ; ;	
2.Engine Model	A1400N1	A1400N2	A1400N3						:							
1.Engine Code	N/A	N/A	V						:							