California Environmental Protection Agency AIR RESOURCES BOARD	ISEKI MATSUYAMA MFG. CO., LTD.	EXECUTIVE ORDER U-R-038-0024 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		
2004 4ICLL1.50C3D		1.498	Diesel	(hours) 5000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS						
Indirect Diesel Injection		Tractor				

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 19 <kw<37< th=""><th>CATEGORY</th><th></th><th>НС</th><th>NOx</th><th>NMHC+NOx</th><th>со</th><th>PM</th><th>ACCEL</th><th>LUG</th><th>PEAK</th></kw<37<>	CATEGORY		НС	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
102100-01	Tier 2	STD	_N/A	N/A	7.5	5.5	0.60	20	15	50
<u> </u>		CERT			5.3	1.4	0.24	5	4	6

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

5TH day of January 2004.

Allen Lyons, Chief Mobile Source Operations Division

Engine Model Summary Form

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ATTACHMENT 1 OF 1

Manufacturer: ISEKI MATSUYAMA MFG. CO., LTD.

Engine category: Nonroad CI

EPA Engine Family: 4ICLL1.50C3D

Mfr Family Name: NONE

Process Code: New Sub - continued

W-R-038-0024

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8.Fuel Rate: 9.Emission Control (lbs/hr)@peak torque Device Per SAE J1930		E
8.Fuel Rate: (lbs/hr)@peak torque	10.3@71.4	8.8@72.0
7.Fuel Rate: mm/stroke@peak torque	34.1@71.4	33.7@72.0
6.Torque @ RPM (SEA Gross)	71.4@1800	72.0@1560
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	12.9@30.3	14.1@33.0
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	30,7@30.3	32.2@33.0
RPM oss)	30.3@2500	33.0@2600
1.Engine Code 2.Engine Model	N/A E3CD 30.3@2500 30,7@30.3	N/A E3CD 33.0@2600 32.2@33.0
1.Engine Code 2.Engine	N/A	N/A