## YANMAR CO., LTD.

EXECUTIVE ORDER U-R-028-0303 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)				
2006	6YDXL2.00M4T	1.995	Diesel	8000				
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION					
Ţ	Direct Diesel Injection, Tu	urbocharger	Crane, Loader, Tractor, Dozer, Pump, Compressor, Excavator					

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbons (HC), oxides of nitrogen (NOx), or non-methane hydrocarbons 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			E	XHAUST (g/kW-l	OPACITY (%)				
			HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
37 ≤ kW < <b>7</b> 5	Tier 2	STD	N/A	N/A	7.5	5.0	0.40	20	15	50
		CERT			5.2	1.5	0.33	4	3	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 \_\_\_\_\_\_\_ day of December 2005.

Allen Lyons, Chief

Mobile Source Operations Division

## Engine Model S amary Form

U-R-028-0303 ATTACHMENT, Plof!

Yanmar Co.,Ltd. Manufacturer:

Engine category: Nonroad CI
EPA Engine Family: 6YDXL2.00M4T

Mfr Family Name: N/A

**New Submission** Process Code:

itrol 11930					1 V								
9.Emission Control Device Per SAE J1930	Day, EM ya	, EM	H EW	\ EM \	NI NI	M	EM	EM	EM	EM	EM	EM	Ē
8.Fuel Rate: (lbs/hr)@peak torque	16.7	13.4	1814	13.4	13,4	19.7	12.9	19.7	13.0	13.0	13.0	13.0	13.0
mm/stroke@peak torque	44.5	38.1	188	38.1	38.1	38.8	36.7	38.8	37.0	37.0	37.0	37.0	37.0
6.Torque @ RPM (SEA Gross)	133.5/1700	119,4/1600	119,4/1600	119.4/1600	119,4/1600	123,2/2300	120:2/1600	123.2/2300	120.2/1600	120.2/1600	120.2/1600	120.2/1600	120.2/1600
o.ruel Rate. (lbs/hr) @ peak HP (for diesels only)	25.4	24.1	22.8	21.7	20.6	23.7	21.0	23.7	21.0	21.0	21.0	21.0	21.0
4.Fuel Kate: mm/stroke @ peak HP (for diesel only)	38.4	36.4	35.7	35.2	34.7	35.8	34.0	35.8	34.0	34.0	34,0	34.0	34.0
3.BHP@RPM (SAE Gross)	58,1/3000	57.3/3000	55,4/2900	53.5/2800	51.4/2700	57.3/3000	53.5/2800	57.3/3000	53.5/2800	53.5/2800	53.5/2800	53.5/2800	53.5/2800
2.Engine Model	4TNV84T-VM2	4TNV84T-D	4TNV84T-I	4TNV84T-K	4TNV84T-L	S4D84E-5D	S4D84E-5K	D2.0ACAE2SW	4TNV84T-XWA	4TNV84T-XWL	4TNV84T-XTB	4TNV84T-XNS	4TNV84T•XSU
1.Engine Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ΝA	N/A	N/A	N/A