California Environmental Protection Agency AIR RESOURCES BOARD	YANMAR CO., LTD.	EXECUTIVE ORDER U-R-028-0149 New Off-Road Compression-Ignition Engines
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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)		
2003 3YDXL0.22D1N		0.219	Diesel	3000		
SPECIAL	FEATURES & EMISSION		TYPICAL EQUIPMENT APPLICATION			
	Direct Diesel Inje	ction	Pump, Compressor, C	Generator Set		

The engine models and codes are attached.

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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	EMISSION			E	EXHAUST (g/kw-hr)			OPACITY (%)		
POWER CLASS	STANDARD		нс	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
kW < 8	Tier 1	STD	N/A	N/A	10.5	8.0	1.0	N/A	N/A	N/A
<u></u>		CERT			8.6	6.9	0.8			

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 2002.

Rephael Surnnich

Allen Lyons, Chief Mobile Source Operations Division

Engine Model ? Imary Form

Manufacturer:	Yanmar Co.,Ltd.
Engine category:	Nonroad CI
EPA Engine Family.	3YDXL0.22D1N
Mfr Family Name:	N/A
Process Code:	New Submission

ATTACHMENT EO U-R-028.0149

1.Engine Code	 2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rale: min/stroke @ peak HP (for diesel only)	5.Fuel Rate; (lbs/hr) @ peak HP (for diesels only)	6.Torquo @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
N/A	L48EE-DE	4.4/3600	10.1 S	2.0.	6.7/2700 (N)	9.8	1.5	NEM IN
N/A	L48EE-D	4.4/3600	10,1	2.0	6.7/2700	9.8	1.5	EM
N/A	L48EE-DG	4.4/3600	57 · · · 10.1		6.7/2700, 414	1.5 State 19.8 State 18		EM STA
NA	L48EE-DEG	4.4/3600	10.1	2.0	6.7/2700 👍	9.8	1.5	EM
N/A.	L48EE-DP	4.4/3600	10.1	2.0	6.7/2700)\\\\/	() () () () () () () () () () () () () (15	A 18 EMAN 20
N/A	L48EE-DEP	4.4/3600	10.1	2.0	6.7/2700	9.8	1.5	EM
N/A 1	L48EE-DWK3	4.1/3450	9.5	(* 1. 8 1.6	111 6.6/2600 1 1 S	((学))):	Alex -1.4	EM CALINA
N/A of the	L48EE-DWKPA	3.9/3300	9.2	1.7	6.9/3000	9.6	1.6	EM
N/A	L48EE-DWKPA	QL 3.9/3300	9.2	1:7	6.9/3000	1111. (H. 9.6, 10x 2	1.6	EMCO
N/A	L48EE-DWK2	4.4/3600	10.1	2.0	6.7/2700	9.8	1.5	EM DDI
N/A service	1-L48EE-DVST	4.4/3600	Vu w. K <mark>10,1</mark>	2.0	6.7/2700	19.8 (1+1)	1.5 A	THE EM
N/A	L48EE-DSP	4.4/3600	10.1	2.0	6.7/2700	.9.8		EM
N/A / / /	L48EE-DP5	164.4.4/3600	us)	, 2,0 ·····	6.7/2700ia	9:8 P. 1	的独特队。 1.5 认识。	NY EMAN
N/A	🗈 L48EE-DRBO 📊	4.4/3600	10.1	2.0	6.7/2700	9.8	19 1.5	EM
A NA A	L48EE-DEVBO	4.4/3600	10.1	12.0 · · · · · · · · · · · · · · · · · · ·	6.7/2700 min	9.84	的运动的1.5%制度的	EM SA
N/A	L48EE-DRWE	4.4/3600	10.1	2.0	6.7/2700	9.8 · F. K	1.5	EM
WWA A	Well48EE-DR	4,4/3600	214 (j. 10.1.	2.0	6.7/2700 data	State 9.8	1.5	MARKEM BY
NA	L48EE-DGMO	4.4/3600	10.1	2.0	6.7/2700	9.8	1.5	EM
N/A 5	L48ECE-DGM	4.4/3600	· 10.1 》:"	2.0	6.7/2700 · · · ·	9.8.01	Val-141155 Ma	EN EM ISS
N/A	L48EE-DEGMA	4.4/3600	10.1	2.0	6.7/2700	9.8	1.5	EM
S. S. MANA	L48ECE DEGM		10,1	2.0	6.7/2700 A	1/1.45.46 - 9 .8 N 54 6	244115月11日	AND EMAINS
N/A	L48EE-DRM	4.4/3600	10.1	2.0	6.7/2700 i	9.8	a (1.5. 1.5. 1.5.	EM
N/A/	L48EE-DVMK	4.4/3600 Ph	(gas, 10.1)	2.0	in (⊴):6.7/2700 (n);	111 19.8	在1945年115日2月1	SUBRIEM 1
N/A	L48EE-DRSA	4.4/3600	10.1	2.0	6.7/2700 i 🕂	(∩, id., if., i9.8, i.)		EM Los M
MATRIAN AND AND AND AND AND AND AND AND AND A	MIL48EE-DVSAN	2) - 4 4/3600)/	20. 13 A 10. 1	34/17:37210-33333114	6.7/2700/2410		新展的外门 。5566.434	SWARE MARKEN
NA	L48EE-DEGY6	4.4/3600	10.1	2.0	6,7/2700 2 ! } h	////:●:8 世/小平	1.5 月 4	EM Y 🕅

Manufacturer:	Yanmar Co.,Ltd.
Engine category:	Nonroad Cl
EPA Engine Family.	3YDXL0.22D1N
Mfr Family Name:	.)
Process Code:	Running Change

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ATTACHMENT EO# V-R-028-0149

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1.Engine Code	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: 9.Em (lbs/hr)@peak torque Device	ission Control
N/A	L48EE-DPKO	4.4/3600	10.1	2.0	6.7/2700	9.8		EM
N/A N/A	L48EE-DPKOD	4.4/3600	10.1	2.0	6.7/2700	9.8	1.5	EM
	L48EE-DEPKO	4.4/3600	10.1	2.0	6.7/2700	9.8	1.5	EM