YANMAR CO., LTD.

EXECUTIVE ORDER U-R-028-0129

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)						
2003	3YDXL2.19H4N	2.190	Diesel	5000						
	FEATURES & EMISSION		TYPICAL EQUIPMENT APPLICATION							
	Direct Diesel Injec	etion	Generator S	Set						

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	EMISSION			E	XHAUST (g/kw-l	OPACITY (%)					
POWER CLASS	STANDARD CATEGORY		HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK	
19≤ kW < 37	Tier 1	STD	N/A	N/A	9.5	5.5	0.80	N/A	N/A	N/A	
		CERT			7.9	4.5	0.40				

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 _____ 20th ___ day of December 2002.

Allen Lyons, Chief

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Mobile Source Operations Division

Engine Model S mary Form

Yanmar Co.,Ltd. Manufacturer;

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9.Emission Control Device Per SAE J1930	EM	EM	EM	EM	EM	EM	EM	EM DD	EM	EM	EM	EM	EM	EM							到沙漠					
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7. Fuel Rate: Norque	N/A	N/A	N/A	Υ×	N/N	X X	N/A	A/N	N/A	N/A	N/A	A/N	N/A	N/A												
7.Fu mm/str																			3 . 3 . 3 .							
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F. M. F. 5. Fuel Rate:	1.3	10.8	.10.8	11.3	10,8	10.8	11.0	11.3	11.3	10.8	11.0	10,7	10.8	10.8							が変わ					
5. Fuel Rate: (bs/hr) @ peak HP (for diesels only)			10												2.73	·				1 × N						
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4. Fuel Rate: mm/stroke @ peak HP (for diesel only)	. 9	4	4	9	4	4	æ	9	9	7.4	8	-	4.	4	4,1								Section 2			
4. Fuel Rale: or diesel only	28.6	27.4	27.4	28.6	27.4	27.4	27.8	28.6	28.6	27.	27.8	27.1	27.	27.4			***			! 1.						
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3.BHP@RPM (SAE Gross)	9/180	30.1/1800	30,1/1800	30,8/1800	30.1/1800	30.1/1800	.30.5/1800	30.8/1800	30.8/1800	30.1/1800	30.5/1800	29.7/1800	30,1/1800	30.1/1800								-		7.d-		
3.BH (SAL	30	30.	.30	30.	30	30.	.30	30	30.	30	30.	29.	30	30						· . 					1.00	5.7
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