EXECUTIVE ORDER U-R-028-0175 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)		
2004	4YDXL0.52R2N	0.523	Diesel	3000	
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION		
Indirect Diesel Injection			Generator 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 POWER	EMISSION STANDARD				EXHAUST (g/kw-l	ır)	EXHAUST (g/kw-hr) OPACITY (%				
CLASS	CATEGORY		HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK	
8≤ kW < 19	Tier 1	STD	N/A	N/A	9.5	6.6	0.80	N/A	N/A	N/A	
	1	CERT			7.6	3.5	0.43	13/7	IN/A	- N/A	

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 2003.

Allen Lyons, Chief

Mobile Source Operations Division

Engine Model S mmary Form

Manufacturer:	Yanmar Co.,Ltd.							E
Engine category:	Nonroad CI						A) ll ()
EPA Engine Family.	4YDXL0.52R2N	,					†1 7 1	1-R
Mfr Family Name;	N/A						20 ettn	-28
Process Code;	New Submission						. ,	?_,,
							J	
1,Engine Code	1.Engine Code 2.Engine Model	3.BHP@RPM (SAF Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for dicsels culv)	6. Torque @ RPM	7.Fuet Rate: mm/stroke@peek	8.Fuel Rate: 9.1	9.Emission Control
		(2000)	(fully income to)		(550.50 (355)	a 7 h 70	(instill)@beak tordue Dev	Device Per SAE J1930
N/A	N/A 2TNE68-ECH1	14.1/3600	17.5	6.9	N/A	N/A	N/A	EM
N/A	2TNE68C-EHG	11.9/3000	17.3	5.7	N/A	N/A	N/A	EM
NA	2TNE68C-EBG	13.4/3600	16.1	6.4	N/A	N/A	N/A	EM *
N/A	2TNE68C-EYA	13.7/3600	16.6	6.6	N/A	N/A	N/A	EM /D/
NA	2TNE68-EGB2	14.1/3600	17.5	6.9	N/A	N/A	N/A	EM /
N/A ≥	2TNE68C-ETR	9.4/2400	16.7	4.5	N/A	N/A	N/A	EM T
			continuent de Santifacione de la Constantina del Constantina de la Constantina de la Constantina de la Constantina de la Constantina del Constantina de la C	American care responses of the control of the contr	The second section of the sect	The second secon	100000000000000000000000000000000000000	

Engine Model . , nmary Form

EO#U-R-028-0175 ATTACHMENT 20F2

R/C #04-01

Manufacturer: Yanmar Co., Ltd.

Engine category: Nonroad CI

EPA Engine Famiy: 4YDXL0.52R2N

Mfr Family Name:

Process Code: Running Change

	4
30 %	WA EM EM
돌드	
გ₩	
8.Fuel Rate: 9.Emission Control lbs/hr)@peak torque Device Per SAE J1930	Σ
iss Pe	
를 S	
G é	
Φ	
कें	
8.Fuel Rate: hr)@peak tor	
Pea R	NA
.j. @	
8	
ĕ	
: eak	
7.Fuel Rate: mm/stroke@peak torque	
Fuel Ra stroke@ torque	Ž
Furstro	
Z Z	
_	
₹ _	
, RI oss	
6.Torque @ RPM (SEA Gross)	\$
E di	
S.	
9	6.6
•	K67.85
5.Fuel Rate: lbs/hr) @ peak HP (for diesels only)	
ate sak on	
P P Sels	ယ္
5.Fuel Rate: bs/hr) @ peak Hf (for diesels only)	
S/h	
$\overline{}$	
ite: oeak HP only)	1977 1 97 24
4.Fuel Rate: /stroke @ peak HP (for diesel only)	
ite: oea only	
4.Fuel Rat stroke @ p or diesel o	16.6
ake eeë	_
A.F. stro	
4.Fuel Rai mm/stroke @ p (for diesel o	
=	200
-	
PN (SS)	8
<u>@</u> &	39
3.BHP@RPM (SAE Gross)	7.
3.E	7
_	
del	9
Š	ம்
<u>-</u>	ပ္က
gin	ĕ
Ш П	ZTNE68C-ENP 13.7/3600
2	72
de	
යි	18.0
ē	\triangleleft
<u>ģ</u>	MA
1.Engine Code 2.Engine Model	
₹-	
	metric and a life in !