California Environmental Protection Agency	
AIR RESOURCES BOARD	YAN

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-45-9;

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	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)			
2002	2YDXL0.49P2N	0.493	Diesel	3000			
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION				
	Indirect Diesel Inje	ection	Crane, Loader, Tra Pump, Compressor,	ctor, Dozer, Refrigerator			

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	EXHAUST (g/kw-ł	OPACITY (%)				
POWER	STANDARD CATEGORY		НС	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
	Tier 1	STD	N/A	N/A	10.5	8.0	1.0	20	15	50
		CERT			5.3	2.6	0.6	4	10	11

**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 \_

 $29 \frac{fL}{day}$  day of November 2001.

all

R. B. Summerfield, Chief Mobile Source Operations Division

Engine Model Su: Iary Form

ATTACHMENT

Yanmar Diesel Engine Co.,Ltd. Manufacturer:

2YDXL0.49P2N Nonroad Cl

> EPA Engine Famly. Mfr Family Name:

Engine category:

N/A

FO U-R-028-0092

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1 Endine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.F.uel Kate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	mm/stroke@peak lorque	8.Fuel Rale: (lbs/hr)@peak lorque	S₩
	1	1	14.8 × 14.8	4.8	21.7/1800	17.1	3.4	EM [D]
N/A			14.8	4.8	21.7/1800	17.1	3.4	EM
N/A	21NE66KC-E1	10.4/2930		8 <b>7</b>	21,7/1800	17.1	3.4	EM
N/A	2TNE66KC-EI	0087/6/01		C Y	21 7/1800	17.1	3.4	EM
N/A	2TNE66KC-ET	9.1/2600	14.7	<b>1</b>	21.7/1800	17.1	3.4	EM
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**Engine Model Summary Form** 

FO U-R-028.0092

Par 2

ATTACHMENT

Manufacturer: Yanmar Diesel Engine Co.,Ltd. Engine category: Nonroad Cl

EPA Engine Famiy. 2YDXL0.49P2N

Mfr Family Name:

Process Code:

Running Change Aut. 10,200

. 5.Fuel Rate: 5.Fuel Rate: 3.Fuel Rate: 3.BHP@RPM mm/stroke @ peak HP (lbs/hr) @ peak HP 3.BHP@RPM mm/stroke @ peak HP (lbs/hr) @ peak HP

7.Fuel Rate: mm/stroke@peak 8.Fuel Rate: 9.Emission Control torque Device Per SAE J1930

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