

 AIR RESOURCES BOARD	YANMAR CO., LTD.	EXECUTIVE ORDER U-R-028-0143 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	3YDXL1.01P3N	1.006	Diesel	3000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Indirect Diesel Injection			Crane, Loader, Tractor, Dozer, Pump, Compressor	

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):

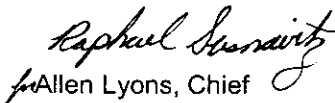
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
8 ≤ kW < 19	Tier 1	STD	N/A	N/A	9.5	6.6	0.80	20	15	50
		CERT	--	--	7.4	2.8	0.37	2	2	2

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 23rd day of December 2002.


for Allen Lyons, Chief
Mobile Source Operations Division

Engine Model Summary Form

Manufacturer: Yanmar Co., Ltd.
 Engine category: Nonroad CI
 EPA Engine Family: 3YDXL1.01P3N
 Mfr Family Name: N/A
 Process Code: New Submission

ATTACHMENT

FOU-R-028-0143

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak IIP (for diesels only)	5.Fuel Rate: (lbs/hr) @ peak IIP (for diesels only)	6.Torque @ 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	3TNE74-EVHV	25.5/3600	18.7	11.1	45.8/2600	21.9	9.4	EM
N/A	3TNE74C-EAF	23.7/3000	18.4	9.1	48.1/2250	21.4	7.9	EM
N/A	3TNE74C-EFIP	24.5/3000	19.1	9.4	48.9/2250	21.8	8.1	EM
N/A	3TNE74C-EMP	25.3/3600	17.7	10.5	42.9/2700	19.9	8.9	EM
N/A	3TNE74-ENSR	16.6/2200	17.7	6.4	47.1/1650	20.9	5.7	EM
N/A	3TNE74-E1FC	22.5/2800	18.7	8.6	48.5/2100	21.5	7.5	EM
N/A	3TNE74-EJK1	21.2/2650	18.7	8.2	47.4/1600	21.1	5.6	EM
N/A	3TNE74-EJK1E	21.2/2650	18.7	8.2	47.2/1600	21.0	5.5	EM
N/A	3TNE74-EJK2	20.3/2650	17.9	7.8	47.4/1600	21.1	5.6	EM
N/A	3TNE74-EJK2E	20.1/2650	17.7	7.7	47.2/1600	21.0	5.5	EM
N/A	3TNE74C-EJU	22.2/3200	16.2	8.5	43.7/2400	19.4	7.7	EM
N/A	3D74E-N3AJ	20.8/2600	18.7	8.0	46.3/1800	20.6	6.1	EM
N/A	3TNE74C-ESA	22.9/3000	17.8	8.8	47.3/2250	21.0	7.8	EM
N/A	3TNE74C-EYA	22.9/3000	17.8	8.8	47.3/2250	21.0	7.8	EM
N/A	3TNE74C-EYA	25.3/3600	17.7	10.5	42.9/2700	19.9	8.9	EM
N/A	3TNE74-EAMM	20.6/2700	17.8	7.9	47.2/1975	21.0	6.8	EM
N/A	3D74EN3AB	20.8/2600	18.7	8.0	45.9/1800	20.4	6.0	EM
N/A	3TNE74-EN3A	20.8/2600	18.7	8.0	45.9/1800	20.4	6.0	EM
N/A	3D74E-3CB	20.8/2600	18.7	8.0	45.9/1800	20.4	6.0	EM
N/A	3TNE74C-ETA	22.9/3000	17.8	8.8	47.3/2250	21.0	7.8	EM
N/A	3TNE74-ENYB	15.9/2000	18.2	6.0	47.4/1600	21.1	5.6	EM
N/A	3TNE74-ENYB	18.9/2400	18.4	7.3	47.6/1700	21.4	6.0	EM
N/A	3TNE74C-EJM	22.2/3000	17.3	8.5	46.6/2250	20.7	7.7	EM
N/A	3TNE74-ENBV	18.3/2400	17.8	7.0	46.2/1600	20.5	5.5	EM
N/A	3TNE74-ENSR	19.0/2500	17.7	8.8	46.8/1750	20.8	6.0	EM
N/A	3TNE74-EJK	21.3/2650	19.1	8.3	47.4/1600	21.1	5.6	EM