California Environmental Protection Agency AIR RESOURCES BOARD	YANMAR CO., LTD.	EXECUTIVE ORDER U-R-028-0360 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)
2007	7YDXL3.32M4N	3.319	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Exhaust-Gas Recirculation, Electronic Control Module	Crane, Loader, Tractor, Dozer, Pump, Compressor, Excavator

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
37 ≤ kW < 75	Tier 2	STD	N/A	N/A	7.5	5.0	0.40	20	15	50
		CERT	--	--	3.7	2.3	0.27	4	5	6

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 4 day of April 2007.

Annette Hebert, Chief
Mobile Source Operations Division

ATTACHMENT
U-R-028-0360

Engine Model Summary Template

Engine Family	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: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
7YDXL3.32M4N	N/A	4TNV98-ZDM1	71.1/2500	49.4	27.2	179.2/1600	56.5	19.9	EM EGR DDI, ECM
7YDXL3.32M4N	N/A	3TNNA	69.9/2500	47.8	26.3	174.2/1600	52.6	18.6	EM EGR
7YDXL3.32M4N	N/A	3TNPA	67.3/2400	46.9	24.8	175.0/1550	52.8	18.0	EM EGR
7YDXL3.32M4N	N/A	3TNQA	64.6/2300	46.1	23.4	175.5/1500	52.9	17.5	EM EGR
7YDXL3.32M4N	N/A	3TNSA	62.1/2200	47.4	23.0	176.3/1400	54.4	16.8	EM EGR
7YDXL3.32M4N	N/A	3TNVA	59.5/2100	46.7	21.6	177.3/1350	54.5	16.2	EM EGR
7YDXL3.32M4N	N/A	3TNWA	57.0/2000	47.0	20.7	178.1/1300	54.8	15.7	EM EGR
7YDXL3.32M4N	N/A	3TNNC	59.0/2500	40.1	22.1	146.8/1600	44.9	15.8	EM EGR
7YDXL3.32M4N	N/A	3TNPC	57.0/2400	39.8	21.0	147.8/1550	44.6	15.2	EM EGR
7YDXL3.32M4N	N/A	3TNQC	54.3/2300	39.2	19.9	147.2/1500	44.5	14.7	EM EGR
7YDXL3.32M4N	N/A	3TNSC	52.2/2200	39.0	18.9	147.9/1400	44.8	13.8	EM EGR
7YDXL3.32M4N	N/A	3TNVC	50.1/2100	39.4	18.2	149.2/1350	44.7	13.3	EM EGR