State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-W-3-24
Relating to Certification of
New Spark-Ignition Marine Engines

YAMAHA MOTOR COMPANY LTD.

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, and 43104 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following new spark-ignition marine engine and exhaust emission control system produced by the manufacturer are certified as described below.

Model Year: 2002

Fuel Type: Gasoline Engine Type: 4-Stroke

Level of Cleanliness: Very Low Emission ("Two Stars")

Equipment Application: Outboard

Engine Family: 2YMXM.2322GA

Displacement: 232 cc

Exhaust Emission Control Systems and Special Features:

Engine Modification

Engine models are listed on the attachment. Production engines shall be in all material respects the same as those for which certification is granted.

BE IT FURTHER RESOLVED: That the manufacturer has elected to certify the listed engines to a family emission limit (FEL) of hydrocarbon plus oxides of nitrogen (HC+NOx) described below, expressed in grams per kilowatt-hour (g/kW-hr) in accordance with a plan submitted by the manufacturer to, and approved by, the Executive Officer for compliance with the exhaust emission standard on a corporate average basis pursuant to Sections 2442(a) and (b) of Title 13, California Code of Regulations (13 CCR).

HC + NOx FEL	Certification Level
25.41	23.31

Compliance with the standard on a corporate average basis shall be determined based on the sales-weighted average power of all engines produced for sale in California that are included in the approved corporate average compliance plan for the model year, and as calculated pursuant to 13 CCR Section 2442(b)(4).

BE IT FURTHER RESOLVED: That for the listed engines, the manufacturer has submitted, and the Executive Officer hereby approves, the information and materials to demonstrate certification compliance with the following California emission regulations and requirements. Engines certified under this Executive Order shall conform to all applicable California emission regulations and requirements:

- All applicable requirements in the "California Exhaust Emission Standards and Test Procedures for 2001 Model Year and Later Spark-Ignition Marine Engines;"

- Emission Control Labeling and Consumer/Environmental Labeling (13 CCR Sections 2443.1, 2443.2 and 2443.3);

- Emission Control System Warranty (13 CCR Sections 2445.1 and 2445.2);

- Closed Crankcases (Part 1, Section 18.(h) of the "California Exhaust Emission Standards and Test Procedures for 2001 Model Year and Later Spark-Ignition Marine Engines"); and

- Quarterly reports of engines produced in this family for sale in California shall be submitted to the Executive Officer no later than 45 days after the end of each calendar quarter.

Executed at El Monte, California this 5th day of February 2001.

R. B. Summerfield, Chief
Mobile Source Operations Division

ATTACHMENT

Model Year: 2002
Manufacturer Name: Yamaha Motor Co., Ltd.
Engine Family: 2YMXM.2322GA
SI MARINE ENGINE SUPPLEMENTAL INFORAMATION

Issued: 12/19/2000
Revised:
E.O.#: U-W-3-24

S10. MODEL SUMMARY (Use an asterisk (*) to identify worst-case engine model used for certification testing.)

S11	S12	S13			S14	S15	S16	S17	S18
Engine Model	Engine Code	Sales Codes (Check All appropriate)			Eng. Displ. (cc)	Rated Power (kW)	Rated Speed (RPM)	Peak Torque (N-m)	Peak Torque Speed (RPM)
		Calif. Only	49-State	50-State					
F9.9MSHA				*	232	7.3	5000	15.7	3500
F9.9MLHA				*	232	7.3	5000	15.7	3500
T9.9ELHA				*	232	7.3	4500	15.7	3500
T9.9ELRA				*	232	7.3	4500	15.7	3500
T9.9EXHA				*	232	7.3	4500	15.7	3000
T9.9EXRA				*	232	7.3	4500	15.7	3000
F9.9ELRA				*	232	7.3	5000	15.7	3500
F9.9ESHA				*	232	7.3	5000	15.7	3500
F9.9ELHA				*	232	7.3	5000	15.7	3500