

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

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following new spark-ignition marine engine and emission control systems (ECS) produced by the manufacturer are certified as described below. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	FUEL TYPE	DISPLACEMENT (cc)	LEVEL OF CLEANLINESS
2019	KM9XM04.62RS	Gasoline	4576	Ultra Low Emission ("Three Stars")
EQUIPMENT APPLICATION		ECS & SPECIAL FEATURES		ENGINE TYPE
Outboard		Sequential Multiport Fuel Injection, Heated Oxygen Sensor		4-Stroke
ENGINE MODELS (rated power in kilowatts, kW)	See Attachment			

BE IT ORDERED AND RESOLVED: That the listed engines are certified to a hydrocarbon plus oxides of nitrogen (HC+NOx) family emission limit (FEL) and a carbon monoxide (CO) direct standard in accordance with a plan submitted by the manufacturer to, and approved by, the Executive Officer for compliance with the exhaust emission standards on a corporate average basis pursuant to Title 13, California Code of Regulations, (13 CCR) Section 2442(a). The HC+NOx FEL and the CO standard shall be the applicable emission standards for this engine family for determining compliance of any engine within this engine family pursuant to 13 CCR Sections 2444.1 (in-use compliance) and 2446 (audit testing). The standards and certification emission levels in grams per kilowatt-hour (g/kW-hr) for this engine family are as follows. Engines in this engine family shall have closed crankcases in conformance with Part I, Section 18(h) of the "California Exhaust Emission Standards and Test Procedures for 2001 Model-Year and Later Spark-Ignition Marine Engines."

*=not applicable	HC+NOx (g/kW-hr)	CO (g/kW-hr)
STANDARD	*	300.0
FAMILY EMISSION LEVEL	15.90	*
CERTIFICATION LEVEL	13.50	194.3

Compliance with the emission standards on a corporate average basis shall be determined pursuant to 13 CCR Section 2442(a) 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.

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 13 CCR Sections 2443.1, 2443.2 and 2443.3 (emission control, consumer, and environmental labels), and Sections 2445.1 and 2445.2 (emission control system warranty).

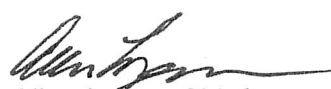
BE IT FURTHER RESOLVED: That the listed engine models are conditionally certified pending confirmatory testing to be completed by February 25, 2010. Failure to adequately demonstrate compliance by the specified date shall be cause for the Air Resources Board to revoke this Executive Order. Engines introduced into commerce under the revoked Executive Order shall be deemed uncertified, and the manufacturer may be subject to enforcement action.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Quarterly reports of engines produced in this engine family for sale in California shall be submitted to the Executive Officer no later than 45 days after the end of each calendar quarter pursuant to 13 CCR Sections 2442(a)(2)(B) and 2446.

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 21ST day of June 2019.



Allen Lyons, Chief
 Emissions Compliance, Automotive Regulations and Science Division

RC-01 7-26-2019



California Environmental Protection Agency

AIR RESOURCES BOARD

CERTIFICATION SUMMARY SI MARINE ENGINES Type: NEW

1. MODEL-YEAR 2019 MANUFACTURER: MERCURY MARINE EXECUTIVE ORDER: V-W-1-0511

2. Engine Family(EF) Name: a. EPA-Standardized: KM9XM04.62RS b. EF Name on Engine Label: KM9XM04.62RS
c. Trade Name (e.g., Optimax): Major Equipment Applications: OUTBD

3. All Engine Sales Codes within EF: 50S *DLS: 6/25/19 DLS: 6/25/19 0.020*

4. All Engine Displacement in EF in cubic centimeters (cc): 1) 4576 2) 3) 4) 5)

5. EF Rated Power (in kW): Highest Power: 336 Lowest Power: 336 Sales-Weighted Power: 336

6. HC+NOx Emission Standard (g/kW-hr): 15.9 HC+NOx Emission Standard Type: FEL

CO Emission Standard (g/kW-hr): 300

7. Environmental Cleaniness / Number of Stars Rating: 3 Corresponding: TIER3 Star_Label HC+NOx_std (g/kW-hr): 16

8. Engine Design: a) Combustion Cycle: four-stroke if 2-stroke, Oil/Fuel Ratio is

b) Engine Type: Reciprocating c)Valvetrain Overhead d)Total Number of Intake + Exhaust Valves/Ports per Cyl.: 4

e) Type of Engine Cooling Water f) Number of Cylinders: 8 g) Cylinder Arrangement: V

h) Operating Fuel: (i) system type: Dedicated (ii) Fuel: Operating_Fuel: GAS

9. Emission Control Systems: * HO2S SFI * SAW * * *

10. Deterioration Factors (DFs): a. New Durability Testing?: YES if Carryover, from Engine Family

b. Dura. Eng. Model 450 hp DTS DF Eng. ID: PV1-05 Service Accumulation Hours 366

c. DF Type: additive d. DF Values: HC: NOx: HC+NOx: 0 CO: 0

11. Certification Test Engine Information: (EDE) Type: NEW if carryover, from Engine Family

a. Test Engine (EDE) : Model: 450 RS DTS EDE ID PV2-4 Rated Power,kW: 336@ 6100 rpm

Break-in/Stabilization Hours: 6 CERT_Test Date: 02/21/2019 Test Fuel: Indolene Clear

b. Test Procedure (TP): (i) RGM (ii) Test Cycle: 5-Mode

(iii) Special Test Equipment

12. HC+NOx Certification Emission Level (in g/kW-hr): 13.501 CO Certification Level (in g/kW-hr): 194.3

Test No. and Type, Fuel	Official Test Results, g/kW-hr					Deteriorated Certification Emissions, g/kW-hr (i.e., with DFs applied)			
	HC	NOx	HC+NOx	CO	CO2	HC	NOx	HC+NOx	CO
CTG	7.32	6.52	13.836	197.3	842.3			13.836	197.3
RTG	6.73	6.77	13.501	194.3	844.1			13.501	194.3

Quality Audit Procedure: CumSum Manufacturer's Issue Date: 3/12/2019 Revision Date:

Remarks:

Models: too many to list

Processed By: [Signature] Date Processed: 7/26/2019 Review By: Date Reviewed:

Model Year: 2019
 Manufacturer Name: Mercury Marine
 Engine Family: KM9XM04.62RS
 SI MARINE ENGINE SUPPLEMENT INFORMATION

Page: 3
 Issued: 05/07/2019
 Revised: 06/25/2019
 E.O.#: U-W-001-0511

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

S11 Model Designation	S12 Engine Code	S13 Sales Codes (Check all appropriate codes)			S14 Eng. Disp. (cc)	S15 Rated Power (kW)	S16 Rated Speed (RPM)	S17 Peak Torque (N-m)	S18 Peak Torque Speed
		Calif. Only	49 State	50-State					
14500001A				X	4576	336	6400	577	4000
14500002A				X	4576	336	6400	577	4000
14500003A				X	4576	336	6400	577	4000
14500004A				X	4576	336	6400	577	4000
14500005A				X	4576	336	6400	577	4000
14500006A				X	4576	336	6400	577	4000
14500007A				X	4576	336	6400	577	4000
14500008A				X	4576	336	6400	577	4000
14500009A				X	4576	336	6400	577	4000
14500010A				X	4576	336	6400	577	4000
14500011A				X	4576	336	6400	577	4000
14500012A				X	4576	336	6400	577	4000
14500013A				X	4576	336	6400	577	4000
14500014A				X	4576	336	6400	577	4000
14500015A				X	4576	336	6400	577	4000
14500016A				X	4576	336	6400	577	4000
14500017A				X	4576	336	6400	577	4000
14500018A				X	4576	336	6400	577	4000
14500019A				X	4576	336	6400	577	4000
14500020A				X	4576	336	6400	577	4000
14500021A				X	4576	336	6400	577	4000
14500022A				X	4576	336	6400	577	4000
14500023A				X	4576	336	6400	577	4000
14500024A				X	4576	336	6400	577	4000
14500025A				X	4576	336	6400	577	4000
14500026A				X	4576	336	6400	577	4000
14500027A				X	4576	336	6400	577	4000
14500028A				X	4576	336	6400	577	4000
14500029A				X	4576	336	6400	577	4000
14500030A				X	4576	336	6400	577	4000
14500031A				X	4576	336	6400	577	4000
14500032A				X	4576	336	6400	577	4000
14500033A				X	4576	336	6400	577	4000
14500034A				X	4576	336	6400	577	4000

Model Year: 2019
 Manufacturer Name: Mercury Marine
 Engine Family: KM9XM04.62RS
 SI MARINE ENGINE SUPPLEMENT INFORMATION

Page: 4
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14500035A				X	4576	336	6400	577	4000
14500036A				X	4576	336	6400	577	4000
14500037A				X	4576	336	6400	577	4000
14500038A				X	4576	336	6400	577	4000
14500039A				X	4576	336	6400	577	4000
14500040A				X	4576	336	6400	577	4000
14500041A				X	4576	336	6400	577	4000
14500042A				X	4576	336	6400	577	4000
14500043A				X	4576	336	6400	577	4000
14500044A				X	4576	336	6400	577	4000
14500045A				X	4576	336	6400	577	4000
14500046A				X	4576	336	6400	577	4000
14500047A				X	4576	336	6400	577	4000
14500048A				X	4576	336	6400	577	4000
14500049A				X	4576	336	6400	577	4000
14500050A				X	4576	336	6400	577	4000
14500051A				X	4576	336	6400	577	4000
14500052A				X	4576	336	6400	577	4000
14500053A				X	4576	336	6400	577	4000
14500054A				X	4576	336	6400	577	4000
14500055A				X	4576	336	6400	577	4000
14500056A				X	4576	336	6400	577	4000
14500057A				X	4576	336	6400	577	4000
14500058A				X	4576	336	6400	577	4000
14500059A				X	4576	336	6400	577	4000
14500060A				X	4576	336	6400	577	4000
14500061A				X	4576	336	6400	577	4000
14500062A				X	4576	336	6400	577	4000
14500063A				X	4576	336	6400	577	4000
14500064A				X	4576	336	6400	577	4000
14500065A				X	4576	336	6400	577	4000
14500066A				X	4576	336	6400	577	4000

* worst-case equivalent engine model used for certification testing (250hp XL ProXS DTS)