

## Inboard/Sterndrive Marine Engine Standards

### Proposed California Air Resources Board Regulation Order

<u>Model Year</u>	<u>Rated Power</u> [kilowatts]	<u>Compliance Option</u> <sup>1</sup>	<u>Durability</u> [hours/years]	<u>Exhaust Standard</u>		<u>Supplemental Measure</u> <sup>4</sup>
				<u>NMHC<sup>2</sup>+NOx</u> [grams/kilowatt-hour]	<u>Type</u> <sup>3</sup>	
2003-2006	kW ≤ 373	N/A	N/A	16.0	AVE	None
2007	kW ≤ 373	Option 1	N/A	16.0 (55%)	AVE	None
			480/10	5.0 (45%)	FIXED	None
		Option 2	N/A	14.0	FIXED	Low-Permeation Fuel Line Hoses
2008	kW ≤ 373	Option 1	N/A	16.0 (25%)	AVE	None
			480/10	5.0 (75%)	FIXED	None
		Option 2	480/10	5.0	FIXED	Low-Permeation Fuel Line Hoses
2009 & Later	kW ≤ 373	N/A	480/10	5.0 <sup>6</sup>	FIXED	Carryover <sup>7</sup>
	373 < kW ≤ 485		150/3 <sup>5</sup>	5.0 <sup>6</sup>	AVE	
	kW > 485		50/1 <sup>5</sup>	5.0 <sup>6</sup>	AVE	

- A. No crankcase emissions shall be discharged into the ambient atmosphere from 2003 and later spark-ignition inboard and sterndrive engines.
- B. Production and sale of spark-ignition marine engines that result in noncompliance with the California standard for the model year shall cause an engine manufacturer to be subject to: revocation or suspension of Executive orders for the applicable engine families; enjoinder from any further sales, or distribution, of such noncompliant engine families, in the State of California pursuant to section 43017 of the Health and Safety Code; and all other remedies available under Part 5, Division 26 of the Health and Safety Code.

<sup>1</sup> Once a manufacturer has chosen an option, that option must continue to be used exclusively across product lines.

<sup>2</sup> The non-methane component of hydrocarbon.

<sup>3</sup> Corporate averaging (AVE) may be used to demonstrate compliance with the exhaust emission standard, except where a FIXED standard is required.

<sup>4</sup> Supplemental measures may be different than shown, but must provide equal and verifiable emission reductions to those indicated.

<sup>5</sup> For the purpose of durability testing, components that have been approved with an hourly warranty period shorter than the full hourly durability period per sec. 2445.1 (c)(3)(C)4 may be replaced at the specified warranty interval.

<sup>6</sup> All engines ≤ 373kW must meet a 5.0 g/kW-hr NMHC+NOx capping standard. For engines > 373 kW, the standard may be met by sales-averaging with engines equal to or less than 373 kW.

<sup>7</sup> The same or better supplemental emission control hardware used to meet the standard in 2007 must be used every model year thereafter.