



A GENERAL OVERVIEW OF THE *Marine Spark-Ignition Engine, Vessel and Off-Road Recreational Vehicle Emission Regulations*

Marine engines, marine vessels and off-road recreational vehicles are an important source of pollution, in particular during the summer when most of these engines and vehicles are in operation. The emission standards set out in the *Marine Spark-Ignition Engine, Vessel and Off-Road Recreational Vehicle Emission Regulations* have been established to protect the health of Canadians and Canada's environment by reducing smog-forming emissions. These emission standards are aligned with those of the United States Environmental Protection Agency (U.S. EPA).



To what and whom do the Regulations apply?

The Regulations apply to:

- a) **Marine spark-ignition engines and off-road recreational vehicles** of the 2012 and later model years (2013 and later model years for high-performance inboard engines);
- b) **Vessels** of the 2015 and later model years that are **designed to be propelled by a marine engine**, if the vessels have installed fuel lines or fuel tanks;
- c) **Companies** in the business of **manufacturing, distributing or importing** these engines, vessels or vehicles in Canada; and
- d) **Persons** who import these engines, vessels and vehicles.

The products listed below are targeted by the new Regulations.

TARGETED PRODUCTS	
Marine engines and vessels	Off-road recreational vehicles
Outboard engines	Snowmobiles
Personal watercraft	Off-road motorcycles
Inboard engines (including sterndrive engines)	All-terrain vehicles (ATVs)
Vessels designed to be propelled by marine engines and with installed fuel lines or fuel tanks	Utility vehicles (UVs)



Exclusions exist for the following types of engines, vessels and vehicles:

- Those designed for military use
- Those designed for competition
- Those that are to be exported
- Those regulated by the *On-Road Vehicle and Engine Emission Regulations*
- Marine engines rated at 250 kW or more that use natural gas as fuel
- Vehicles powered by compression-ignition (diesel) engines
- Vehicles or vessels powered solely by electricity



What are the general requirements of the Regulations?

- **All engines, vessels or vehicles must bear a unique identification number.**
- **All engines, vessels or vehicles must conform to emission standards, via one of the following options:**
 - a) Conform directly to the applicable standards;
 - b) Be covered by one or more U.S. EPA certificates and conform to the standards or family emission limits of that certificate, as well as be concurrently sold in Canada and the United States; or
 - c) For some standards, as outlined in the following diagrams, engines and vehicles may alternatively conform to a family emission limit instead of the standard in a) **and** conform on the basis of fleet averaging.
- **Certain engines, vessels or vehicles must bear the national emissions mark.**

The **national emissions mark** is used to indicate that an engine, vessel or vehicle complies with the Regulations. The mark must be affixed to engines manufactured in Canada and to vessels or vehicles whose main assembly is completed in Canada, if those engines, vessels or vehicles are transported within Canada. A company must be authorized to affix the mark. The mark is not mandatory for engines, vessels or vehicles that are imported.

- **The following administrative requirements must be met:**
 - a) Declare to the Minister before importing targeted engines, vessels and vehicles;
 - b) Submit evidence of conformity to the Minister before importation or upon request by the Minister as specified in the Regulations;
 - c) Submit to the Minister an end-of-model-year report following each model year;
 - d) Retain copies of the end-of-model-year reports and other records for 8 years;
 - e) Provide emission-related maintenance instructions in English, French or both languages to the first retail purchaser; and
 - f) Notify the Minister and current owners in the event of a defect in the design, construction or functioning of the product that is likely to affect compliance with a prescribed standard.

Information and contacts

The Regulations were published in the *Canada Gazette*, Part II, on February 16, 2011, and most provisions will come into force on April 5, 2011. For more detailed information, consult the Regulations and the related guidance document on the CEPA registry website, at www.ec.gc.ca/lcpe-cepa.

Further information can also be obtained by contacting Environment Canada at 819-997-2800 / 1-800-668-6767 (in Canada only), or VehicleandEngineInfo@ec.gc.ca.

Disclaimer:

This document is issued for information purposes only, should not be considered legal advice, and does not include all legal requirements. If there is any inconsistency or conflict between the information contained in this document and the *Canadian Environmental Protection Act, 1999* or the *Marine Spark-Ignition Engine, Vessel and Off-Road Recreational Vehicle Emission Regulations*, the Act or Regulations take precedence.

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OVERVIEW OF COMPLIANCE OPTIONS FOR OUTBOARD ENGINES AND PERSONAL WATERCRAFT ENGINES

*Outboard engines or personal watercraft engines **manufactured in, distributed in or imported into** Canada must conform to the standards via ONE of the following options starting in model year 2012.*

OPTION 1

Conform directly to standards

- Hydrocarbon + nitrogen oxide (HC + NO_x)
- Carbon monoxide (CO)

OPTION 2

Covered by a U.S. EPA certificate AND sold concurrently in Canada and the U.S.

Must conform to emission standards or family emission limits referred to in the U.S. EPA certificate

OPTION 3

Fleet averaging

- Fleet averaging available for: HC + NO_x and CO
- Engine must conform to family emission limits
- Fleet average emission credits or deficits must be determined
 - *Deficits must be offset*

ALL ENGINES



- Not-to-exceed emission standards
- No crankcase emissions allowed

ENGINE STANDARDS

– WHERE APPLICABLE –



- Diagnostic system required for engines equipped with three-way catalysts and closed-loop control of air-fuel ratios
- Torque broadcasting system required for electronically controlled engines starting in the **2013** model year

APPLIES THROUGHOUT THE ENGINE'S USEFUL LIFE

Whichever comes first:

Outboard engines: 10 years or 350 hours of operation

Personal watercraft engines: 5 years or 350 hours of operation

REQUIREMENTS OUTLINED AT THE BEGINNING OF THIS DOCUMENT MUST ALSO BE MET.

Additionally, please refer to the following diagram:

OVERVIEW OF COMPLIANCE OPTIONS FOR VESSELS AND OUTBOARD ENGINES (EVAPORATIVE EMISSIONS ONLY)



OVERVIEW OF COMPLIANCE OPTIONS FOR INBOARD ENGINES*

*Inboard engines **manufactured in, distributed in or imported into** Canada must conform to the standards via ONE of the following options starting in model year 2012 for conventional inboards and 2013 for high-performance inboards.*

OPTION 1

Conform directly to standards

- Hydrocarbon + nitrogen oxide (HC + NO_x)
- Carbon monoxide (CO)

OPTION 2

Covered by a U.S. EPA certificate AND sold concurrently in Canada and the U.S.

Must conform to emission standards or family emission limits referred to in the U.S. EPA certificate

OPTION 3

Fleet averaging (Conventional inboards only)

- Fleet averaging available for: HC + NO_x and CO
- Engine must conform to family emission limits
- Fleet average emission credits or deficits must be determined
 - *Deficits must be offset*

ALL ENGINES

- No crankcase emissions allowed

ENGINE STANDARDS – WHERE APPLICABLE –

- Diagnostic system required for engines equipped with three-way catalysts and closed-loop control of air-fuel ratios
- Not-to-exceed emission standards for conventional inboards
- Torque broadcasting system required for electronically controlled engines starting in the **2013** model year

APPLIES THROUGHOUT THE ENGINE'S USEFUL LIFE

Whichever comes first:

Conventional inboard (engine power ≤ 373 kW): 10 years or 480 hours of operation
High-performance inboard (373 kW < engine power ≤ 485 kW): 3 years or 150 hours of operation
High-performance inboard (engine power > 485 kW): 1 year or 50 hours of operation

REQUIREMENTS OUTLINED AT THE BEGINNING OF THIS DOCUMENT MUST ALSO BE MET.

Additionally, please refer to the following diagram:

OVERVIEW OF COMPLIANCE OPTIONS FOR VESSELS AND OUTBOARD ENGINES (EVAPORATIVE EMISSIONS ONLY)

* Includes sterndrive engines



OVERVIEW OF COMPLIANCE OPTIONS FOR VESSELS AND OUTBOARD ENGINES (EVAPORATIVE EMISSIONS ONLY)

*Vessels and outboard engines **manufactured in, distributed in or imported into** Canada must conform to the standards via ONE of the following options starting in model year 2015.*

OPTION 1

Conform directly to standards

- Fuel line permeation
- Fuel tank permeation
- Diurnal

OPTION 2

Sold concurrently in Canada and the U.S. AND fuel lines or fuel tanks covered by U.S. EPA certificates

Must conform to emission standards or family emission limits referred to in the U.S. EPA certificates

Standards apply to the following:

VESSELS



- Designed to use a marine engine; AND
- In which fuel tanks or fuel lines are installed

OUTBOARD ENGINES



- In which fuel tanks or fuel lines are installed

NOTE: The standards are not applicable to portable fuel tanks and their associated fuel lines.

REQUIREMENTS OUTLINED AT THE BEGINNING OF THIS DOCUMENT MUST ALSO BE MET.



OVERVIEW OF COMPLIANCE OPTIONS FOR SNOWMOBILES

*Snowmobiles **manufactured in, distributed in or imported into** Canada must conform to the standards via ONE of the following options starting in model year 2012.*

OPTION 1

Conform directly to standards

- Hydrocarbon (HC)
- Carbon monoxide (CO)
- Fuel tank permeation

OPTION 2

Covered by a U.S. EPA certificate AND sold concurrently in Canada and the U.S.

Must conform to emission standards or family emission limits referred to in the U.S. EPA certificate

OPTION 3

Fleet averaging

- Fleet averaging available for: HC, CO and fuel tank permeation emission standards
- Vehicle must conform to family emission limits
- Fleet average emission credits or deficits must be determined
 - *Deficits must be offset*

ALL SNOWMOBILES



- Fuel line permeation emission standards
- No crankcase emissions allowed

APPLIES THROUGHOUT THE VEHICLE'S USEFUL LIFE

*Whichever comes first:
5 years or 400 hours of operation or 8000 km*

REQUIREMENTS OUTLINED AT THE BEGINNING OF THIS DOCUMENT MUST ALSO BE MET.



OVERVIEW OF COMPLIANCE OPTIONS FOR OFF-ROAD MOTORCYCLES

Off-road motorcycles **manufactured in, distributed in or imported into** Canada must conform to the standards via ONE of the following options starting in model year 2012.

OPTION 1

Conform directly to standards

- Hydrocarbon + nitrogen oxide (HC + NO_x), carbon monoxide (CO)
 - *Alternative standard for off-road motorcycles with engines ≤ 70 cc*
- Fuel tank permeation

OPTION 2

Covered by a U.S. EPA certificate AND sold concurrently in Canada and the U.S.

Must conform to emission standards or family emission limits referred to in the U.S. EPA certificate

OPTION 3

Fleet averaging

- Fleet averaging available for: HC + NO_x, CO and fuel tank permeation emission standards
 - *Not available for CO for off-road motorcycles with engines ≤ 70 cc*
- Vehicle must conform to family emission limits
- Fleet average emission credits or deficits must be determined
 - *Deficits must be offset*

ALL OFF-ROAD MOTORCYCLES



- Fuel line permeation emission standards
- No crankcase emissions allowed

APPLIES THROUGHOUT THE VEHICLE'S USEFUL LIFE

Whichever comes first:

For vehicles with engines ≤ 70 cc, 5 years or 5000 km

For vehicles with engines > 70 cc, 5 years or 10 000 km

REQUIREMENTS OUTLINED AT THE BEGINNING OF THIS DOCUMENT MUST ALSO BE MET.



OVERVIEW OF COMPLIANCE OPTIONS FOR ALL-TERRAIN VEHICLES AND UTILITY VEHICLES

*All-terrain vehicles (ATVs) and utility vehicles (UVs) **manufactured in, distributed in or imported into** Canada must conform to the standards via ONE of the following options starting in model year 2012.*

OPTION 1

Conform directly to standards

- Hydrocarbon + nitrogen oxide (HC + NO_x)
 - *Alternative standards for ATVs and UVs with engines ≤ 100 cc*
 - *Alternative engine-based standards for model years 2012 to 2014 only*
- Fuel tank permeation

OPTION 2

Covered by a U.S. EPA certificate AND sold concurrently in Canada and the U.S.

Must conform to emission standards or family emission limits referred to in the U.S. EPA certificate

OPTION 3

Fleet averaging

- Fleet averaging available for: HC + NO_x and fuel tank permeation emission standards
- Vehicle must conform to family emission limits
- Fleet average emission credits or deficits must be determined
 - *Deficits must be offset*

ALL ATVs or UVs



- Fuel line permeation emission standards
- No crankcase emissions allowed
- CO emission standards
 - *Alternative standards for ATVs and UVs with engines ≤ 100 cc*
 - *Alternative engine-based standards for model years 2012 to 2014 only*

APPLIES THROUGHOUT THE VEHICLE'S USEFUL LIFE

Whichever comes first:

For vehicles with engines < 100 cc, 5 years or 500 hours of operation or 5000 km

For vehicles with engines ≥ 100 cc, 5 years or 1000 hours of operation or 10 000 km

REQUIREMENTS OUTLINED AT THE BEGINNING OF THIS DOCUMENT MUST ALSO BE MET.