

CANADA: MOTORCYCLES: EMISSIONS

History

Motorcycles are regulated under the On-Road Vehicle and Engine Emission Regulations, mandated by the Canadian Environmental Protection Act of 1999. The Regulations became effective on 1 January 2004 for motorcycles and contain emission standards for various classes of on-road vehicles and for heavy-duty engines, including requirements for motorcycles of the 2004 and later model years. These Regulations are designed to align Canadian requirements with corresponding US federal emission standards.

On 15 January 2004, the US EPA published a new final rule to introduce more stringent emission standards for on-road motorcycles beginning in the 2006 model year. The EPA rule introduced some new important elements in both the application and structure of future US motorcycle emission standards. These elements must be addressed in order to maintain Canada/US alignment with respect to motorcycle emission standards. Amendments to the Regulations were adopted in November 2006, and introduce new requirements for 2006 and later model year on-road motorcycles. The changes ensure that Canadian emission standards for on-road motorcycles remain aligned with more stringent standards adopted by the US EPA.

The amendments also contain miscellaneous editorial changes.

Technical Standards

2004-2005 Emission Standards

Canada had motorcycle emissions limits for HC and CO. Exhaust emissions from on-road motorcycles must not have exceeded the emission limits outlined in the table below, when tested in accordance with specified procedures.

2004-2005 Emission Standards for On-Road Motorcycles		
Engine Displacement (cm³)	HC (g/km)	CO (g/km)
≥ 50	5.0	12

While all on-road motorcycles were required to meet the above standards, they were divided into three classes based on engine displacement, and each class had a different useful life. The useful life is the period of time and use for which a motorcycle is required to comply with applicable emission standards.

2004-2005 On-Road Motorcycle Displacement Classes and Useful Life		
Class	Engine Displacement (cm³)	Useful Life
I	50 - 169	5.0 years or 12,000 km, whichever comes first
II	170- 279	5.0 years or 18,000 km, whichever comes first
III	280+	5.0 years or 30,000 km, whichever comes first

2006 and later Emission Standards

Starting with the 2006 model year, EPA re-defined Class I to include motorcycles with engines smaller than 50 cc. These new previously unregulated vehicles are Class I-A, and the pre-existing Class I became Class I-B. Environment Canada continued to align with US regulations.

2006 and later On-Road Motorcycle Displacement Classes and Useful Life		
Class	Engine displacement (cm³)	Useful life
Class I-A	<50	5.0 years or 6,000 km, whichever comes first
Class I-B	50-169	5.0 years or 12,000 km, whichever comes first
Class II	170-279	5.0 years or 18,000 km, whichever comes first
Class III	280+	5.0 years or 30,000 km, whichever comes first

The table below summarizes the new on-road motorcycle exhaust emission standards and implementation schedules, aligned with US standards and schedules. These more stringent emission standards will automatically apply to all current classes of on-road motorcycles (i.e. Class I-B to III).

MY 2006 and later on-road motorcycle exhaust emission standards

Implementation Model Year	Motorcycle Class	Engine Displacement (cm³)	HC (g/km)	HC+NO_x (g/km)	CO (g/km)
2006 and later	I-B	<170	1.0	1.4*	12.0
	II	170-279	1.0	1.4*	12.0
2006-2009 (Tier I)	III	280+	-	1.4	12.0
2010 and later (Tier 2)			-	0.8	12.0

Notes:

*Companies have the option of meeting a combined HC+NO_x standard for Class I and II motorcycles instead of the HC standard. Companies may use optional emission averaging to demonstrate compliance with HC+NO_x standards. Compliance with optional emission averaging for Class I and Class II motorcycles is demonstrated on the basis of the combined fleet of Class I and Class II motorcycles that are certified to the optional HC+NO_x standard (i.e. certified to Family Emission Limit or “FEL”).

Source:

http://transportpolicy.net/index.php?title=Canada:_Motorcycles:_Emissions