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Spectrum Management and Telecommunications

Interference-Causing Equipment Standard

Spark Ignition Systems of Vehicles and Other Devices Equipped with Internal Combustion Engines

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Canada

Preface

This Interference Causing Equipment Standard ICES-002, Issue 5, for *Spark Ignition Systems and Other Devices Equipped with Internal Combustion Engines*, replaces ICES-002 Issue 4, published February 2007.

Changes:

Section 4: Clarification for testing hybrid vehicles and devices.

Section 5: The following phrase was removed from ICES-002 Issue 5:

The limits of radio noise set out in Section 5.2 do not apply to spark ignition systems while they are being tested for compliance with this Standard.

Issued under the authority of
Industry Canada

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1. General

1.1 This Interference-Causing Equipment Standard sets out the technical requirements for the impulse electric field strength of radio noise produced by spark ignition systems of vehicles and other devices equipped with internal combustion engines.

1.2 Subject to Sections 1.3 and 1.4, Sections 3 to 7 apply to every vehicle or device, other than aircraft, equipped with an internal combustion engine using a spark ignition system and manufactured in or imported into Canada, except those manufactured or imported strictly for export purposes.

A transition period ending January 1, 2010, is provided, within which compliance with either ICES-002, Issue 4, or ICES-002, Issue 5, will be accepted. After this date, only compliance with ICES-002, Issue 5, will be accepted.

1.3 Sections 3 to 7 do not apply to vehicles or devices used:

- (a) solely for demonstration and exhibition purposes; or
- (b) as prototype units.

1.4 Sections 3 to 7 do not apply to units or models of vehicles or devices for which the manufacturer, importer or owner has been granted a special permission by the Minister.

The Minister may grant a special permission where:

(a) the manufacturer, importer or owner has presented a written application giving:

- the reasons for the request;
- an analysis based on sound engineering principles showing that the vehicle or device will not pose a significant risk to radiocommunication;
- a guarantee of compliance with all of the conditions that the Minister may set out in the special permission; and

(b) the Minister is satisfied that the vehicle or device will not pose a significant risk to radiocommunication.

The special permission is valid only if the vehicle or device:

(a) bears a label stating that it is operating under special permission and setting out the conditions of that special permission; and

(b) complies with all conditions set out in the special permission.

The Minister may revoke or amend the special permission granted under Subsection 1.4 at any time without prior notice.

2. Definitions

In this Standard, *manufacturer* means the person responsible for carrying out the final assembly of or making the last modification to equipment before it is released to the end user.

3. Instrumentation

Instrumentation shall be in accordance with the publication referred to in Section 7.

4. Method of Measurement

- 4.1 For vehicles and other devices equipped with independent electric and internal combustion propulsion systems in the same vehicle or device, the propulsion systems shall be tested separately.
- 4.2 Vehicles with hybrid system propulsion systems shall be tested with both the electrical and the internal combustion systems functioning to operate the vehicle at 40 km/h. If this is not possible, the vehicle shall be tested with the internal combustion engine operating at the speed defined in Table 3¹ and the electric propulsion system operating at 40 km/h, or the maximum speed if this is less than 40 km/h.
- 4.3 For devices, measurements shall be made in normal operating positions(s) and height(s), at 1500/2500 rpm per the established engine speed, or at full speed for devices such as generators and pumps. Where practical, the device under test shall be measured in three orthogonal planes.
- 4.4 The method of measurement shall be in accordance with the publication referred to in Section 7, with the exception that the test conditions described in subsection 5.3.2 of the referenced publication do not apply and are replaced by the test conditions identified in 4.1 and 4.2 above. In addition, the test conditions described in the first paragraph of 5.3.3 of the referenced publication do not apply and are replaced by the test conditions identified in 4.3.

¹ See Canadian Standards Association Standard CAN/CSA-C108.4-06, *Limits and Methods of Measurement*, Section 7.

5. Limits

- 5.1 The limits for impulse electric field strength of radio noise are as specified in the publication referred to in Section 7.

6. Procedural Requirements

- 6.1 A record of the measurements and results shall be retained by the manufacturer or importer for a period of at least five years and made available for examination upon request by the Minister.
- 6.2 A label indicating compliance must accompany each spark-ignited internal combustion engine or any device equipped with this type of engine. The label must be affixed to the apparatus. Where it is not feasible to affix a label to the apparatus because of insufficient space or other constraints, a notice of compliance must be included in the user manual. Suggested text for the notice indicating compliance with this Standard can be found in Annex A.
- 6.3 Automotive manufacturers who already affix a Transport Canada compliance label may use the abbreviations “Complies: ICES-2” or “Comply: ICES-2” on the label. However, the manufacturer must affix a label with a full compliance statement, such as the one found in Annex A, as soon as it is feasible to do so.

7. Reference Publication

This Standard refers to the following publication and, where such reference is made, it shall be to the edition listed below:

Canadian Standards Association Standard CAN/CSA-C108.4-06, *Limits and Methods of Measurement*.

Annex A

Suggested text for the notice indicating compliance with this Standard:

This spark ignition system complies with the Canadian standard ICES-002.

Ce système d'allumage par étincelle de véhicule est conforme à la norme NMB-002 du Canada.