

VEHICLE STANDARD (AUSTRALIAN DESIGN RULE 80/00 — EMISSION CONTROL FOR HEAVY VEHICLES) 2005

APPENDIX C

TECHNICAL GUIDANCE (2000) TO EXHAUST EMISSIONS FROM COMPRESSED NATURAL GAS MOTOR VEHICLES

Circular of Jigi No. 235-2, Jishin No. 1677-2 and Jikan 294-2 of December 22, 2000

1. Scope

Among those motor vehicles fuelled by compressed natural gas only or those motor vehicles fuelled by compressed natural gas and gasoline (hereinafter referred to as the “compressed natural gas motor vehicles”), this technical guidance applies to those motor vehicles enumerated below.

Notwithstanding this technical guidance, other motor vehicles shall be subjected to the hitherto-employed examples.

- (i) Of ordinary-sized motor vehicles, small-sized motor vehicles and mini-sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less and of ordinary-sized or small-sized motor vehicles with a gross vehicle weight of 1.7 tonnes or less, those motor vehicles whose type is designated on and after April 1, 2001 pursuant to the provision of Paragraph 1, Article 75 of the Road Vehicles Act (Law No. 185 of 1951. Hereinafter referred to as the “Act”), those motor vehicles equipped with an exhaust emission control device whose type is designated, among the designated devices, pursuant to the provision of Paragraph 1, Article 75-2 of the said Act and those motor vehicles manufactured on and after September 1, 2002.
- (ii) Of mini-sized motor vehicles (except those used exclusively for carriage of passengers) and ordinary-sized or small-sized motor vehicles with a gross vehicle weight in excess of 1.7 tonnes (except those used exclusively for carriage of passengers and with a passenger capacity of 10 persons or less), those motor vehicles whose type is designated on and after October 1, 2002 pursuant to the provision of Paragraph 1, Article 75 of the Act and those motor vehicles equipped with an exhaust emission control device whose type is designated, among the designated devices, pursuant to the provision of Paragraph 1, Article 75-2 of the said Act and those motor vehicles manufactured on and after September 1, 2003.

2. Performance of Exhaust Emission Control Devices

- (1) **Exhaust emission values of carbon monoxide, hydrocarbons and nitrogen oxides and identification symbols of exhaust emission control standard**

When the compressed natural gas motor vehicles posted in the column of “Category of motor vehicles” in the next table are subjected to measurements according to the method specified separately, using the measurement mode posted in the column of “Measurement mode” of the said table, each exhaust emission mean value of carbon monoxide, hydrocarbon (or non-methane hydrocarbon) and nitrogen oxides shall not exceed each value posted in the columns of carbon monoxide, hydrocarbon (or non-methane hydrocarbon) and nitrogen oxides of the “Mean exhaust emission value” of the said table.

Furthermore, when a compressed natural gas vehicle uses a new type, the identification symbol according to the said table shall be prefixed to the said type concerned.

Category of motor vehicles	Identification symbol	Measurement mode	Mean exhaust emission value			
			Carbon monoxide	Hydrocarbons	Non methane hydrocarbons	Nitrogen oxides
1 Ordinary-sized passenger motor vehicles, small- sized motor vehicles and mini- sized motor vehicles used exclusively for carriage of passengers with a passenger capacity of 10 persons or less	NF	10-15	0.67 g/km	0.04 g/km	0.03 g/km	0.04 g/km
		11	19.0 g/test	1.10 g/test	0.88 g/test	0.70 g/test
2 Mini-sized motor vehicles (except those used exclusively for carriage of passengers)	NG	10-15	3.30 g/km	0.07 g/km	0.06 g/km	0.07 g/km
		11	38.0 g/test	1.75 g/test	1.40 g/test	1.10 g/test
3 Ordinary-sized or small-sized motor vehicles with a gross vehicle weight of 1.7 tonnes or less (except those used exclusively for carriage of passengers with a passenger capacity of 10 persons or less)	NH	10-15	0.67 g/km	0.04 g/km	0.03 g/km	0.04 g/km
		11	19.0 g/test	1.10 g/test	0.88 g/test	0.70 g/test
4 Ordinary-sized passenger motor vehicles or small-sized motor vehicles with a gross vehicle weight exceeding 1.7 tonnes, but not more than 3.5 tonnes (except those used exclusively for carriage of passengers with a passenger capacity of 10 persons or less)	NI	10-15	2.10 g/km	0.04 g/km	0.03 g/km	0.07 g/km
		11	24.0 g/test	1.10 g/test	0.88 g/test	0.80 g/test
5 Ordinary-sized passenger motor vehicles or small-sized motor vehicles with a gross vehicle weight exceeding 3.5 tonnes (except those used exclusively for carriage of passengers with a passenger capacity of 10 persons or less)	NJ	Gasoline 13	16.0 g/kWh	0.44 g/kWh	0.35 g/kWh	1.69 g/kWh

(2) Conformity to requirements of the existing exhaust emission control devices

The compressed natural gas motor vehicles shall be subjected mutatis mutandis to Paragraph 14 (requirements of exhaust emission control devices), Paragraph 15 (idling CO standard), Paragraph 16 (idling HC standard) and Paragraph 12 (blow-by gas standard), Article 31 of the Safety Regulations for Road Vehicles (Ministry of Transport Ordinance No. 67 of 1951).

(3) Confirmation of durability of exhaust emission control devices

In the case of motor vehicles in which an application is made for type designation pursuant to the provision of Paragraph 1, Article 75 of the Road Vehicles Act (Law No. 185 of 1951) (hereinafter referred to as “the designated motor vehicle”), motor vehicles in which an application is made for approval of modification in connection with the construction and devices of the designated motor vehicles, or motor vehicles equipped with an exhaust emission control device whose type is designated, among the designated devices, pursuant to the provision of Paragraph 1, Article 75-2 of the said Act (hereinafter referred to as “the device designated motor vehicle”), these motor vehicles shall be driven mutatis mutandis according to the provisions of Article 1 of the “Announcement of Requirements on Durability Vehicles and Documents to Be Submitted to Minister of Transport for Type Designation” (Ministry of Transport Announcement No. 331 of 1983. Hereinafter referred to as “the Announcement”). Then, measurements shall be conducted according to the method specified separately, using the measurement mode specified in the table in Item (1), Articles 2. As for the measurement results, each mean exhaust emission value of carbon monoxide, hydrocarbon (non-methane hydrocarbon) and nitrogen oxides shall not exceed each value posted in the columns of carbon monoxide, hydrocarbon (non-methane hydrocarbon) and nitrogen oxides of the “Mean exhaust emission value” in the table in Item (1), Article 2. Furthermore, confirmation shall be made at the time of examination of the motor vehicles concerned, using either of the following methods given below.

- (i) Method wherein, after the motor vehicle concerned with the application has been driven mutatis mutandis according to the provisions of Article 1 of the Announcement and the handling prescribed in the Durability Driving (Part 3) Enforcement Procedure of Additional Rule 7 “Durability Driving Enforcement Procedure, etc.” of the “Enforcement Procedure for Motor Vehicle Type Certification” (Jishin No. 1252 of 1998. Hereinafter referred to as “the Enforcement Procedure for Motor Vehicle Certification”), the motor vehicle concerned is presented along with the driving results, etc. for the examination.
- (ii) Method wherein the motor vehicle concerned with the application that has not undergone the durability driving is presented and the documents are submitted mutatis mutandis according to the provisions of the Article 1 of the Announcement and the handling prescribed in the Durability Driving (Part 3) Enforcement Procedure of Additional Rule 7 “Durability Driving Enforcement Procedure, etc.” of the “Enforcement Procedure for Motor Vehicle Certification” as well as Article 4 of Attachment 4 “Device Type Designation Standard for Exhaust Emission Control Devices” of the “Type Designation Enforcement Procedure for Devices” (Jigi No. 215, Jikan No. 222 and Jishin No. 1253 of October 12, 1998).

(4) Confirmation of durability of exhaust emission control devices of motor vehicles not subjected to application

Of those motor vehicles which have been prescribed as “(2) motor vehicles not subjected to application of the performance of exhaust emission control devices,” in the case of the designated motor vehicles, motor vehicles in which application is made for approval of modification of construction and devices of the designated motor vehicles, or device designated motor vehicles, notwithstanding of the provisions of the preceding Paragraph, confirmation shall be made as to the durability of the exhaust emission control devices, in principle, using an appropriate method deemed as acceptable.

3. Others

(1) **Affixing of catalyst replacement label**

On motor vehicles equipped with a catalyst reaction type emission control device which requires catalyst replacements, the indication label given below shall be affixed at a place readily seen at the inside of the engine compartment of the motor vehicle concerned.

Make sure to replace the catalyst of the exhaust emission control device installed on this motor vehicle at _____ month intervals.		↑ 50 mm or more ↓
Name of Motor Vehicle Manufacturer		
Catalyst Replacement Record		
Next replacement date	Replacement date	
← 90 mm or more →		

(2) **Inspection of exhaust emissions from exhaust emission control devices**

Any person who will alienate a designated motor vehicle or a new motor vehicle shall check whether or not the exhaust emission control device of the motor vehicle concerned conforms to the requirements of the performance of Article 2 according to Additional Rule 7.2 “Handling Procedure for Exhaust Emission Values of Durability Driving Motor Vehicles” of the Enforcement Procedure for Motor Vehicle Certification.

In this case, he shall keep the records of the inspection concerned pursuant to the provision of Paragraph 3, Article 2 of “Handling Procedure for Exhaust Emission Control Devices” of Additional Rule 15 “Handling Procedure for Motor Vehicles Related to Noise Control Devices and Exhaust Emission Control Devices” of the Enforcement Procedure for Motor Vehicle Certification.

(3) **Instruction Manual**

An instruction manual, etc. which describes the handling of compressed natural gas shall be issued to the users.