



**Economic and Social  
Council**

Distr.  
GENERAL

TRANS/WP.29/2005/90  
4 August 2005

Original: ENGLISH

---

**ECONOMIC COMMISSION FOR EUROPE**

INLAND TRANSPORT COMMITTEE

World Forum for Harmonization of Vehicle Regulations (WP.29)

(One-hundred-and-thirty-seventh session,  
15-18 November 2005, agenda item 5.2.28.)

PROPOSAL FOR CORRIGENDUM 1 TO SUPPLEMENT 1 TO REGULATION No. 115

(Specific LPG and CNG retrofit systems)

Transmitted by the Working Party on Pollution and Energy (GRPE)

Note: The text reproduced below was adopted by GRPE at its fiftieth session and is transmitted for consideration to WP.29 and AC.1. It is based on document TRANS/WP.29/GRPE/2005/12, as amended (TRANS/WP.29/GRPE/50, para. 31).

This document is a working document circulated for discussion and comments. The use of this document for other purposes is the entire responsibility of the user.

Documents are also available via the INTERNET:

<http://www.unece.org/trans/main/welcwp29.htm>

Paragraph 1.4., correct to read:

- "1.4. This Regulation applies to retrofit systems intended to be fitted on vehicles of categories M and N, with the exception of:
- (a) vehicles approved before the application of the requirements of Regulation No. 83, 01 series of amendments,
  - (b) vehicles type-approved pursuant to Regulation No. 83, approval A and C,
  - (c) vehicles type-approved pursuant to Regulation No. 83, others than M1 and N1 categories,
  - (d) vehicles type-approved pursuant to Regulation No. 83, series of amendments 01 or 02 or 03 or 04 series,
  - (e) vehicles type-approved pursuant to Regulation No. 49, series of amendments 01 or 02 or 03 series."

Insert a new paragraph 1.5., to read (footnote 1/ to the former paragraph 1.4. remains unchanged):

- "1.5. The requirements for the different categories (M<sub>1</sub>, N<sub>1</sub> or others) are defined in paragraphs 2. to 7. 1/.

Once the retrofit system is installed in the vehicle, the modified vehicle shall fulfil all the provisions of the Regulation for which the type approval has been initially granted."

Paragraph 3.3., correct to read:

- "3.3. Installation manual(s) for the retrofit system installation on the parent vehicle(s)."

Paragraph 6.1.2.4., correct to read:

- "6.1.2.4. "Pollutants" means:

- (i) carbon monoxide
- (ii) .....
- ....."

Paragraphs 6.1.2.5.3.3. and 6.1.2.5.3.4., correct to read:

- "6.1.2.5.3.3. The ratios of CO<sub>2</sub> emissions and fuel consumption shall be calculated as follows:

$$K_{CO_2} = CO_{2LPG} / CO_{2petrol}$$

$$K_{Cons} = Cons_{LPG} / Cons_{petrol}$$

For each vehicle of the family, the official values of CO<sub>2</sub> emissions are multiplied by the above ratios.

6.1.2.5.3.4. Notwithstanding the provisions of paragraphs 6.1.2.5.3.1. and 6.1.2.5.3.2., for non intrusive system, as defined in paragraph 2.1.5. of this Regulation, the value of the petrol CO<sub>2</sub> emission and the fuel consumption may be the official values of the vehicle No. i. "

Paragraph 6.1.3.4., correct to read:

"6.1.3.4. Notwithstanding the provisions of paragraph 6.1.3.1., with regard to the way to calculate the mean of maximum power on petrol in paragraphs 6.1.3.2. and 6.1.3.3., for non intrusive system, as defined in paragraph 2.1.5. of this Regulation, the value of maximum power on petrol of the vehicle No. i may be the official value."

Paragraph 6.1.4.1.2., correct to read:

"6.1.4.1.2. "LPG emission-related component" means any component in the air inlet or in the exhaust system which supplies an input to or receives an output from the LPG controller."

Paragraph 6.2.2.4., correct to read:

"6.2.2.4. "Pollutants" means:

- (i) carbon monoxide
- (ii) .....
- ....."

Paragraphs 6.2.2.5.3.3. and 6.2.2.5.3.4., correct to read:

"6.2.2.5.3.3. The ratios of CO<sub>2</sub> emissions and fuel consumption shall be calculated as follows:

$$K_{CO_2} = CO_{2CNG} / CO_{2petrol}$$

$$K_{Cons} = Cons_{CNG} / Cons_{petrol}$$

For each vehicle of the family, the official values of CO<sub>2</sub> emissions and fuel consumption are multiplied by the above ratios.

6.2.2.5.3.4. Notwithstanding the provisions of paragraphs 6.2.2.5.3.1. and 6.2.2.5.3.2., for non intrusive system, as defined in paragraph 2.1.5. of this Regulation, the value of the petrol CO<sub>2</sub> emission and the fuel consumption may be the official values of the vehicle No. i. "

Paragraph 6.2.4.1.2., correct to read:

"6.2.4.1.2. "CNG emission-related component" means any component in the air inlet or in the exhaust system which supplies an input to or receives an output from the CNG controller."

Paragraphs 7.1.3.5. to 7.1.3.7., correct to read:

"7.1.3.5. The installation manual can be divided in two parts:

Part I: (i) Part containing the description of the sample of the retrofit system.

(ii) Part containing the list of components indicated by the retrofit manufacturer as alternatives.

Part II: (i) Part containing installation instructions for the specific vehicle.

7.1.3.6. Installation manual of the parent vehicle(s) has to be submitted to the authority that grants the type approval.

7.1.3.7. Installation manual of the vehicles belonging to the family has to be filed by the retrofit system manufacturer for a time to be determined in accordance with the authority that grants the type approval."

Annex 1A – Addendum, item 3., correct to read:

"3. Vehicles type(s) for which the retrofit equipment type is qualified:

| Fuel         |             | Petrol (or diesel) <u>1/</u> |                     |                     |                                  |                                  | LPG        |                     |                     |                                  |                                  |
|--------------|-------------|------------------------------|---------------------|---------------------|----------------------------------|----------------------------------|------------|---------------------|---------------------|----------------------------------|----------------------------------|
| Vehicle type | Engine type | Power (kW)                   | CO <u>3/</u> (g/km) | HC <u>3/</u> (g/km) | NO <sub>x</sub> <u>3/</u> (g/km) | CO <sub>2</sub> <u>2/</u> (g/km) | Power (kW) | CO <u>3/</u> (g/km) | HC <u>3/</u> (g/km) | NO <sub>x</sub> <u>3/</u> (g/km) | CO <sub>2</sub> <u>2/</u> (g/km) |
|              |             |                              |                     |                     |                                  |                                  |            |                     |                     |                                  |                                  |
|              |             |                              |                     |                     |                                  |                                  |            |                     |                     |                                  |                                  |
|              |             |                              |                     |                     |                                  |                                  |            |                     |                     |                                  |                                  |
|              |             |                              |                     |                     |                                  |                                  |            |                     |                     |                                  |                                  |

1/ Strike out what does not apply.

2/ Applicable to vehicles of category M<sub>1</sub> and N<sub>1</sub> only.

3/ Applicable only to parent vehicle(s)"

Annex 1B - Addendum, item 3., correct to read:

"3. Vehicles type(s) for which the retrofit equipment type is qualified:

| Fuel         |             | Petrol (or diesel) <u>1/</u> |                     |                     |                                  |                                  | CNG        |                     |                     |                                  |                                  |
|--------------|-------------|------------------------------|---------------------|---------------------|----------------------------------|----------------------------------|------------|---------------------|---------------------|----------------------------------|----------------------------------|
| Vehicle type | Engine type | Power (kW)                   | CO <u>3/</u> (g/km) | HC <u>3/</u> (g/km) | NO <sub>x</sub> <u>3/</u> (g/km) | CO <sub>2</sub> <u>2/</u> (g/km) | Power (kW) | CO <u>3/</u> (g/km) | HC <u>3/</u> (g/km) | NO <sub>x</sub> <u>3/</u> (g/km) | CO <sub>2</sub> <u>2/</u> (g/km) |
|              |             |                              |                     |                     |                                  |                                  |            |                     |                     |                                  |                                  |
|              |             |                              |                     |                     |                                  |                                  |            |                     |                     |                                  |                                  |
|              |             |                              |                     |                     |                                  |                                  |            |                     |                     |                                  |                                  |
|              |             |                              |                     |                     |                                  |                                  |            |                     |                     |                                  |                                  |

1/ Strike out what does not apply.

2/ Applicable to vehicles of category M<sub>1</sub> and N<sub>1</sub> only.

3/ Applicable only to parent vehicle(s)"

-----