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PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 110

(Specific components for CNG)

Transmitted by the Secretariat

Note: The text reproduced below was prepared by the secretariat and is the consolidation of TRANS/WP.29/GRPE/2003/3 (Secretariat), TRANS/WP.29/GRPE/2003/4 (Italy) and TRANS/WP.29/GRPE/2002/5 (ENGVA), amended as mentioned in report TRANS/WP.29/GRPE/45, paras. xx and xx.

Note: This document is distributed to the Experts on Pollution and Energy only.

A. PROPOSAL

Through the Regulation and its annexes, amend the words "check valve" to read "non-return valve" (in French "soupape de contrôle" or "soupape antiretour" to read "clapet antiretour"; in Russian "stopornyi klapán" to read "obratnyi klapán").

Through the Regulation and its annexes (French only), amend the words "CNG" to read "GNC" (including the figure in annex 6).

Insert a new paragraph 2.1.4., to read:

"2.1.4. "Operating temperatures" means maximum values of the temperature ranges, indicated in Annex 5O, at which safe and good functioning of the specific component is ensured and for which it has been designed and approved."

Paragraph 2.2., amend to read:

“
(f) gas supply device
..... ”

Paragraph 2.25., amend to read:

"2.25. "Type of components" as mentioned in paragraphs 2.6. to 2.23. above means components which do not differ in such essential respect as materials, working pressure and operating temperatures."

Paragraph 2.5.(French only), amend to read:

“ indépendents soit combinés) :”

Paragraph 2.9., amend to read:

"2.9. "Non-return valve" means"

Paragraph 2.17., amend to read:

"2.17. "Gas supply device"

Insert new paragraphs 2.17.1. and 2.17.2., to read:

"2.17.1. "Gas/air mixer" means a device for mixing the gaseous fuel and intake air for the engine.

2.17.2. "Gas injector" means a device for introducing gaseous fuel into the engine or associated intake system."

Paragraph 4.1., amend to read:

"4.1. The sample of specific component submitted for approval shall bear the trade name or mark of the manufacturer and the type, including one concerning designation regarding operating temperatures ("M" or "C" for moderate or cold temperatures as appropriate); and for flexible hoses"

Paragraph 4.3. (e)., amend the word "weight" to read "mass"

Paragraph 17.1.1., amend to read:

"17.1.1. The CNG system of the vehicle shall function in a good and safe manner at the working pressure and operating temperatures for which it has been designed and approved."

Paragraph 17.1.7.1., amend the reference to "paragraph 17.1.8." to read "paragraph 17.1.7."

Paragraph 17.1.7.2., amend the reference to "paragraph 17.1.8.1." to read "paragraph 17.1.7.1."

Paragraph 17.3.1.9., amend to read:

"17.3.1.9. Gas supply device;"

Paragraph 17.5.5.5., amend to read:

" permanent deformations. In this circumstances a leak not exceeding 100 cm³ per hour may be accepted."

Paragraph 17.10.2., amend to read:

"17.10.2. Vehicles with more than one fuel system shall have a fuel selection system to ensure that no more than one fuel at the same time is supplied to the engine for more than 5 seconds. "Dual-fuel" vehicles, using diesel as the primary fuel for igniting the air/gas mixture, are allowed in cases where these engines and vehicles meet mandatory emission standards."

Annex 1A,

Item 1.2.4.5.3., amend to read:

"1.2.4.5.3. Gas/air mixer: yes/no 1/"

Item 1.2.4.5.5., amend to read:

"1.2.4.5.5. Gas injector(s): yes/no 1/"

Insert new items 1.2.4.5.2.13., 1.2.4.5.3.8., 1.2.4.5.4.8., 1.2.4.5.5.7., 1.2.4.5.6.5., 1.2.4.5.8.1.6., 1.2.4.5.8.2.5., 1.2.4.5.8.3.5., 1.2.4.5.8.4.5., 1.2.4.5.8.5.5., 1.2.4.5.8.6.5., 1.2.4.5.9.6., 1.2.4.5.10.6., 1.2.4.5.11.6., 1.2.4.5.12.6., 1.2.4.5.13.6., 1.2.4.5.14.6., to read:

"..... Operating temperatures: 2/ °C"

(e.g. "1.2.4.5.2.13. Operating temperatures: 2/ °C")

Item 1.2.4.5.9.4., amend to read:

"1.2.4.5.9.4. Activation temperature: 2/ °C"

Annex 1B,

Item 1.2.4.5.3., amend to read:

"1.2.4.5.3. Gas/air mixer: yes/no 1/"

Item 1.2.4.5.5., amend to read:

"1.2.4.5.5. Gas injector(s): yes/no 1/"

Insert new items 1.2.4.5.2.5., 1.2.4.5.3.6., 1.2.4.5.4.6., 1.2.4.5.5.5., 1.2.4.5.6.4., 1.2.4.5.8.1.5., 1.2.4.5.8.2.5., 1.2.4.5.8.3.5., 1.2.4.5.8.4.5., 1.2.4.5.8.5.5., 1.2.4.5.8.6.5., 1.2.4.5.9.5., 1.2.4.5.10.5., 1.2.4.5.11.5., 1.2.4.5.12.5., 1.2.4.5.13.5., 1.2.4.5.14.5., to read:

"..... Operating temperatures: 2/ °C"

(e.g. "1.2.4.5.2.5. Operating temperatures: 2/ °C")

Annex 1B, paragraph 1.2.4.5.9.3., amend to read:

"1.2.4.5.9.3. Activation temperature: 2/ °C"

Annex 2B,

Item 1., amend to read:

“
.....or receptacle 2/
Gas injector(s) 2/
Gas flow adjuster 2/
Gas/air mixer 2/
Electronic”

Annex 2B - Addendum,

Item 1.13., amend to read:

“1.13. Gas injector(s)
 Working
 ”

Item 1.15., amend to read:

“1.15. Gas/air mixer
 Working
 ”

Annex 2 C, Model A (French only), the reference to “Regulation No. 67” should read to “Regulation No. 110”

Annex 2 D, (French only), amend the expression “GPL” to read “GNC”

Annex 3,

Table 6.3. column GNC-1 (English and Russian only), amend the value “450” to read “45”

Paragraph 11.1. (French only), amend to read:

“11.1. Réalisation du marquage

Le fabricant doit effectuer un marquage permanent lisible dépassant 6 cm de hauteur sur”

Annex 3 – Appendix A,

Item A.10. (English only), amend the reference to “cc/hr” to read “cm³/h”

Paragraph A.24., amend to read:

"A.24. Pressure relief device requirements

Pressure relief device specified by the manufacturer shall be shown to be compatible with the service conditions listed in paragraph 4. of annex 3 and through the following qualification tests:

- (a) One specimen shall be held at a controlled temperature of not less than 95 °C and a pressure not less than test pressure (30 MPa) for 24 hours. At the end of this test ..."

Add a new paragraph A.28., to read:

"A.28. Manual valve device requirements

One specimen shall be submitted to a fatigue test at a pressure cycling rate not to exceed 4 cycles per minute as follows:

- (i) held at 20 °C while pressured for 2000 cycles between 2 MPa and 26 MPa."

Annex 3, Appendix D, amend to read:

"....

Marks stamped on shoulder or on labels of the cylinder are:

- (a) "CNG only":
- (b) "DO NOT USE AFTER":
- (a) "Manufacturer's mark":
- (d) Serial and part number:
- (e) Working pressure in MPa:
-"

Annex 4A,

Add a new paragraph 6., to read:

"6. The manual valve

6.1. The manual valve device in Class 0 shall be designed to withstand a pressure of 1.5 times the working pressure.

6.2. The manual valve device in Class 0 shall be designed to operate at a temperature from -40 °C to 85 °C."

Annex 4B,

Paragraph 1.5.2.2., amend to read:

"1.5.2.2. Test temperature: -40 °C ± 3 °C
 or -20 °C ± 3 °C, if applicable."

Paragraph 1.6.2.2., amend to read:

"1.6.2.2. The sealing cone of swivel-nut type must be of the type with a half vertical angle of 45°."

Insert new paragraphs 1.6.2.3. and 1.6.2.4., to read:

"1.6.2.3. The couplings can be made as swivel-nut type or as quick-connector type.

1.6.2.4. It shall be impossible to disconnect the quick-connector type without specific measures or the use of dedicated tools."

Paragraph 2.5.2.2., amend to read:

"2.5.2.2. Test temperature: -40 °C ± 3 °C
 or -20 °C ± 3 °C, if applicable."

Insert new paragraphs 2.6.4. and 2.6.5., to read:

"2.6.4. The couplings can be made as swivel-nut type or as quick-connector type.

2.6.5. It shall be impossible to disconnect the quick-connector type without specific measures or the use of dedicated tools."

Paragraph 3.5.2.2., amend to read:

"3.5.2.2. Test temperature: -40 °C ± 3 °C
 or -20 °C ± 3 °C, if applicable."

Paragraph 3.5.3.2., amend to read:

"3.5.3.2. The leakage through the wall of the hose shall not exceed 95 cm³ per metre of hose per 24 h."

Paragraph 3.5.3.3., amend to read:

“ during 10 minutes. The leakage through the wall of the hose shall not exceed 95 cm³ per metre of hose per 24 h.”

Annex 4 G, amend the word “injector” to read “gas injector” (nine times)
