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

Working Party on Noise (GRB)

(Thirty-fifth session, 13 and 14 September 2001,
agenda item 1.)

PROPOSAL FOR A NEW DRAFT REGULATION: UNIFORM PROVISIONS CONCERNING THE
APPROVAL OF TYRES WITH REGARD TO ROLLING SOUND EMISSIONS

Addendum 1

Transmitted by the Secretariat

Note: The text reproduced below contains the amendments to the original proposal, as agreed by GRB during its thirty-third and thirty-fourth sessions. They are based on the text which was reproduced in the session reports (TRANS/WP.29/GRB/31, para. 5 and annex 2; TRANS/WP.29/GRB/32, paras. 6 and 7).

Note: This document is distributed to the Experts on Noise only.

Paragraph 1.1., amend the words "new pneumatic tyres" to read "newly manufactured pneumatic tyres".

Paragraph 1.1.1., the square brackets should be deleted.

Paragraph 1.1.2., correct to read:

"1.1.2. Tyres having a nominal rim diameter code # 10 (or # 254 mm)
or \$ 25 (or \$ 635 mm);"

Paragraph 1.2., should be deleted.

Paragraph 3.1.5.1., correct the reference to "paragraph 6.2.1." to read "paragraph 6.1.1."

Paragraph 3.2.1., amend the words "tyre to road noise" to read "tyre rolling sound" (three times).

Paragraph 4.2.4., reading "the inscription "M+S"" renumber as paragraph 4.2.5.

Paragraph 4.2.5., renumber as paragraph 4.2.6.

Paragraph 5.4., amend to read:

"5.4. In the space referred to in paragraph 4.3. and in accordance with the requirements of paragraph 4.4. there shall be affixed to every tyre size, conforming to the type of tyre approved under this Regulation, an international approval mark consisting of:"

Paragraph 6.1.1., amend the words "rolling noise" to read "rolling sound", and in the Table, column "Limit dB(A)" enclose all limit values into square brackets, indicating that re-consideration is necessary.

Paragraph 6.1.2., amend the words "rolling noise" to read "rolling sound".

Paragraph 6.2.3., renumber as paragraph 6.1.3. and amend the words "rolling noise" to read "rolling sound".

Paragraph 7.1., amend to read:

"7.1. Every modification of the type of tyre approved with respect to rolling sound emission in accordance with"

Paragraph 7.1.1., amend to read:

".... adverse effect on the tyre rolling sound emission and that the tyre will comply with the requirements of this Regulation; or"

Paragraph 8.2., amend the word "sample" to read "random sample".

Paragraph 8.3., amend to read:

"8.3. Production shall be deemed to conform to the requirements of this Regulation if the levels measured comply with the limits prescribed in paragraph 6.1. above, with an additional allowance of +1 dB(A) for possible mass production variations."

Paragraph 12., amend to read:

"12. INTRODUCTORY PROVISIONS

(To be proposed by the experts from Germany and the United Kingdom)"

Annex 1., item 4., amend to read:

"4. Brand(s) name(s) and/or Trade description(s) of the type of tyre: ..
....."

Annex 2, the title, amend to read:

"ARRANGEMENT OF APPROVAL MARKS"

Annex 3,

The title, amend to read:

"COAST-BY TEST METHOD FOR MEASURING TYRE ROLLING SOUND EMISSION"

Paragraph 0., amend to read:

"0. Introduction

The presented method contains measurement method, in order to obtain the sound level of a set of tyres mounted on a test vehicle rolling on a specified road surface. The maximum sound pressure level regression analysis. Such test results cannot be related to tyre rolling sound measured during acceleration under power or deceleration during braking."

Paragraph 1.1., amend to read:

"..... the windscreen recommended by the manufacturer shall meet or exceed the requirements of Type 1 instruments in accordance with IEC 60651:1979/A1:1993, second edition."

Paragraph 1.1.1., correct the reference to "IEC 942:1988" to read "IEC 60942:1988".

Paragraph 2.3., amend to read:

"2.3. Ambient noise

2.3.1. The background sound level (including any wind noise) shall be at least 10 dB(A) less than the measured tyre rolling sound emission. A suitable windscreen characteristics of the microphone.

2.3.2. Any measurement affected shall be ignored."

Paragraph 2.4.4., amend the words "tyre noise" to read "tyre rolling noise", and separate the parts "Requirements" and "Recommendations ..." into separate paragraphs 2.4.4.1. and 2.4.4.2., to read:

"2.4.4.1. Requirements:

(1) Spray suppression

.....

(e) Suspension shall be normal for unladen condition.

2.4.4.2. Recommendations to avoid parasitic noise:

(a) Removal or modification on the vehicle that may contribute to the background noise of the vehicle is recommended. Any removals or modifications shall be recorded in the test report.

.....

(d) Windows and sliding roof closed during testing."

Paragraph 2.5.3., amend to read:

"..... than the reference pressure P_r and within the interval:

$$P_r \cdot \left(\frac{Q_t}{Q_r} \right)^{1.25} \leq P_t \leq 1.1 P_r \cdot \left(\frac{Q_t}{Q_r} \right)^{1.25}$$

For Class C2 and Class C3 the reference pressure P_r is the pressure corresponding to the pressure index marked on the sidewall.

For Class C1 the reference"

Paragraph 3.1., amend to read:

"..... If abnormal noise (e.g. ventilator, self-ignition) is emitted by the test vehicle during the measurement, the test must be disregarded."

Paragraph 3.2., amend the reference to "paragraph 4.2." to read "paragraph 4.1."

Paragraph 4., amend to read:

"4. Interpretation of results

A measurement shall be invalid if an abnormal discrepancy between the values is recorded (see para. 2.3.2. of this annex)."

Paragraph 4.2., amend to read:

"4.2. Regression analysis of rolling sound measurements

The (not temperature corrected) tyre rolling sound level L_R in dB(A) is determined by a regression analysis according to:

$$L_R = \bar{L} - a \cdot \bar{n}$$

where:

\bar{L} is the mean value of the rolling sound levels L_i , measured
....."

Paragraph 4.3., amend to read:

"4.3. Temperature correction

For Class C1 and Class C2 tyres, the final result"

Paragraph 4.3., amend the words "tyre-road noise" to read "tyre rolling sound".

Annex 4,

Paragraph 3.1., correct the reference to "annex 9, appendix 1, paragraph 3.2." to read "annex 3, paragraph 3.2."

Paragraph 4.2., amend to read (deleting also footnote 2):

"... specified in ISO 10534-1:1996 or ISO 10534-2:1998.

Regarding test specimens, ..."

Paragraph 5.1., amend the words "tyre-road noise" to read "tyre rolling sound".
