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agenda item 6.)

PROPOSALS FOR A DRAFT AMENDMENT TO REGULATION No. 39
(Speedometer equipment)

Transmitted by the Expert from the United Kingdom

Note: The text reproduced below was prepared by the expert from the United Kingdom in order to harmonize the speedometer requirements with those of the European Directives. This document is based on a document (informal document No. 14) distributed without a symbol during the seventy-seventh session of GRSG (TRANS/WP.29/GRSG/56, para. 46).

Note: This document is distributed to the Experts on General Safety Provisions only.

A. PROPOSAL

Paragraph 2.2.1., amend to read:

- "2.2.1. the size designation and structure of the tyres chosen from the range of tyres normally fitted;"

Paragraphs 2.2.2. to 2.2.3.3., amend to read:

- "2.2.2. the overall transmission ratio, including any adaptor or reduction drive, to the speedometer."
- "2.2.3. the type of speedometer as characterized by:
- 2.2.3.1. the tolerance of the speedometer's measuring mechanism;
- 2.2.3.2. the technical constant of the speedometer;
- 2.2.3.3. the range of speeds displayed."

Insert new paragraphs 2.7. to 2.9., to read:

- "2.7. "overall transmission ratio" means the number of revolutions or input pulses at the speedometer input connection, per revolution of the wheel fitted to the axle or drive shaft which operates the speedometer equipment, when the vehicle is travelling in a straight line."
- "2.8. "tolerance of the speedometer's measuring mechanism" means the accuracy of the speedometer instrument itself, expressed as the upper and lower speed indication limits for a range of speed inputs."
- "2.9. "technical constant of the speedometer" means the relationship between the input revolutions or pulses per minute and a specified displayed speed."

Paragraph 3.2.1., amend to read:

"..... in paragraphs 2.2. to 2.9. above;"

Paragraph 5.1., amend to read:

"..... for the type of vehicle but shall not exceed the maximum speed by more than [30 per cent]."

Paragraph 5.1.1., amend to read:

- "5.1.1. The graduations shall be of 1, 2, 5 or 10 km/h. The numerical values of the speed not exceeding 30 km/h. The indicated numerical speed value"

Paragraph 5.1.2., amend to read:

"..... 5 or 10 mph. The numerical values of the speed
at 10 or 20 mph. The indicated numerical speed"

Insert new paragraphs 5.1.3. and 5.1.4., to read:

"5.1.3. In the case of speedometers intended for fitting to Category L1 vehicles the highest value indicated on the dial shall not exceed 80 km/h. The graduations shall be of 1, 2, 5 or 10 km/h and the marked numerical speed values shall not exceed 10 km/h but these marked values need not be uniform.

In addition the dial must have clearly marked numerical values at 50 km/h and 25 km/h where the speedometer is intended for fitting to an L1 category vehicle having a maximum designed speed capability not exceeding 25 km/h.

5.1.4. In the case of speedometers intended for fitting to Category L1 vehicles manufactured for sale in any country where imperial units are used, the highest value indicated on the dial also shall not exceed 50 mph. The graduations also shall be of 1, 2, 5 or 10 mph and the marked numerical speed values shall not exceed 10 mph, beginning at 10 mph, but these marked values need not be uniform.

In addition the dial must have clearly marked numerical values at 30 mph and 15 mph where the speedometer is intended for fitting to an L1 category vehicle having a maximum designed speed capability not exceeding 15 mph."

Paragraph 5.2.1., amend to read:

"5.2.1. The tyres shall be of a type normally fitted to the vehicle, as defined in paragraph 2.3. of this Regulation. A test shall be carried out for each type of speedometer intended to be fitted by the manufacturer."

Paragraph 5.2.2., replace the term "weights" by "mass" (three times).

Paragraph 5.2.5., the table, amend the first line to read:

$V_{max} \leq 100$	[25%], [50%] and [80%] V_{max}
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Paragraph 5.3., amend to read:

"5.3. the speed indicated shall not be less than the actual (true) speed of the vehicle. At the test speeds specified in paragraph 5.2.5. there shall be the following relationship between the speed displayed (V_1) and the actual (true) speed (V_2):

$$0 \leq (V_1 - V_2) \leq 0,1V_2 + 4\text{km/h.}"$$

Annex 1, paragraph 6., replace the term "weight" by "mass".

Annex 3, paragraph 2., amend to read:

".....

In the case of vehicles of categories M and N:

$$0 \leq (V_1 - V_2) \leq 0,1V_2 + 6\text{km/h}$$

In the case of vehicles of category L:

$$0 \leq (V_1 - V_2) \leq 0,1V_2 + 8\text{km/h}"$$

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B. JUSTIFICATION

Re. para. 2.2.1.:

To more accurately define the important characteristics of the tyre in relation to the specific vehicle model being approved.

Re. paras. 2.2.2. to 2.2.3.3.:

To clarify and to allow for subsequent definitions.

Re. paras. 2.7. to 2.9.:

To clearly and accurately define transmission ratio and allow for the introduction of electronic instruments. Also to add definitions of other aspects not presently defined.

Re. para. 3.2.1.:

To take account of previously suggested amendments.

Re. para. 5.1.:

To ensure that only speedometers with speed ranges appropriate to the maximum designed speed of the vehicle are fitted.

Re. paras. 5.1.1. and 5.1.2.:

To clarify that it is the numerical value which should be marked and which need not be uniform.

Re. para. 5.1.3.:

To add specific requirements for low speed vehicles and to align with the proposed European Community Directive on motorcycle speedometers (para. 2.2.2. of the annex).

Re. para. 5.1.4.:

To add provisions for imperial unit speedometers in view of the new paragraph 5.1.3.

Re. para. 5.2.1.:

To clarify and improve the English language version.

Re. para. 5.2.5.:

To add test requirements for the extended scope and to ensure that the accuracy is checked throughout the speed range and at speeds representative of speeds limits which apply in various countries.

Re. para. 5.3.:

To improve the English text and to clarify the equation by the addition of brackets around the $V_1 - V_2$ expression. The original text suggests that the relationship shown should exist throughout the speed range covered by the test speeds but it would not be possible to ascertain this unless tests were carried out at all speeds. It should be sufficient to establish the relationship at the specified test speeds and assume that this applies throughout the range of speeds. The equation may change depending upon the outcome of the proposal from Sweden regarding accuracy.

Re. annex 3, para. 2.:

To add the brackets to expression $V_1 - V_2$, to clarify that it is the result of $(V_1 - V_2)$ must be greater than or equal to 0.
