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Regulation No. 63 (Noise emissions of mopeds)

Proposal for a Supplement to Regulation No. 63

Submitted by the expert from the European Commission*

The text reproduced below was prepared by the expert from the European Commission in accordance with a decision of the Working Party on Noise (GRB) at its sixty-sixth session (ECE/TRANS/WP.29/GRB/64, para. 14) to consider including provisions for sound emission of powered cycles in Regulation No. 63, in line with the provisions on sound emissions of such vehicles in the European Union (EU) legislation. The text below is based on informal document GRB-66-09 and takes into account comments provided at the sixty-fourth, sixty-fifth and the sixty-sixth sessions of GRB as well as comments communicated to the European Commission by the EU Member States in the frame of the dedicated experts' group on L-category vehicles. It proposes exclusion of electrically powered L₁ vehicles from the Regulation scope, inclusion of sound levels measurement conditions for powered cycles equipped with compressed air engine and introduction of sound level limits for powered cycles. The proposed amendments to the current Regulation and marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2016–2017 (ECE/TRANS/254, para. 159 and ECE/TRANS/2016/28/Add.1, cluster 3.2), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Paragraph 1, amend to read:

"1. Scope

This Regulation applies to vehicles of category L₁¹ with regard to sound emission. **Pure electric vehicles, including vehicles with auxiliary electric propulsion, are not in the scope of this Regulation.**"

Annex 3,

Paragraph 2.2.1., amend to read:

"2.2.1. General condition

Before the measurements are started, the engine shall be brought to its normal operating conditions as regards:

- Temperatures;
- Tuning;
- Fuel;
- Sparking plugs, carburettor(s), etc., (as appropriate).

If the vehicle is fitted with fans with an automatic actuating mechanism, this system shall not be interfered with during the sound measurements.

If the vehicle is equipped with devices which are not necessary for its propulsion, but which are used whilst the vehicle is in normal service on the road, those devices shall be in operation in accordance with the specifications of the manufacturer.

In the case of compressed air engines, the normal operating conditions, which do not fall under the above mentioned ones in this paragraph, shall be agreed between the manufacturer and the type-approval authority and shall be annexed to the manufacturer's application for type-approval in accordance with this Regulation. "

Paragraph 3.1.2.1., amend to read:

"3.1.2.1. Acceleration test execution

The vehicle shall approach line AA' at an initial steady speed as specified below. When the front of the vehicle reaches line AA' the ~~throttle~~ **accelerator control** shall be fully opened as quickly as practically possible and kept in that position until the rear of the vehicle reaches line BB'; the ~~throttle~~ **accelerator control** shall then be returned as quickly as possible to the idle position.

For all measurements, the vehicle shall be driven in a straight line along the test track in such a way that the track of the median longitudinal plane of the vehicle is as close as possible to the line CC'."

Paragraph 3.2.3.2., amend to read:

"3.2.3.2. Position and preparation of the vehicle

Before the measurements are started, the engine of the vehicle shall be brought to its normal operating temperature, **if it is an internal combustion engine, or to its normal operating condition, if it is a compressed air engine**. If the vehicle is equipped with automatic fans, no adjustment shall be made to them during the measurement of the sound level.

While measurements are being made, the gear lever shall be in neutral. If the transmission cannot be disconnected, the drive wheel of the vehicle should be allowed to run under no-load conditions by, for example, placing the vehicle on its stand."

Paragraph 3.2.3.3.2.2., amend to read:

"3.2.3.3.2.2. The engine speed shall be gradually increased from idle to the target engine speed and held constant within a tolerance band of ± 5 per cent. Then the ~~throttle~~ **accelerator** control shall be rapidly released and the engine speed shall be returned to idle. The sound pressure level shall be measured during a period consisting of constant engine speed of at least 1 s and throughout the entire deceleration period. The maximum sound level meter reading shall be taken as the test value.

A measurement shall be valid only if the test engine speed did not deviate from the target engine speed by more than the specified tolerance of ± 5 per cent for at least 1 s."

Paragraph 4.2., amend to read:

"4.2. In order to facilitate in use compliance test of vehicles, the following information relating to the sound pressure level measurements carried out in accordance with paragraph 3.1. of Annex 3 for the vehicle in motion is referred to as in use compliance reference data:

- (a) Gear (i) or, for vehicles tested with non-locked gear ratios, the position of the gear selector chosen for the test;
- (b) The vehicle speed v_{AA} in km/h at the beginning of the maximum speed or ~~full-throttle~~ acceleration test **with the accelerator control fully engaged** in gear (i); and
- (c) The final test result in dB(A) as determined according to paragraph 3.1.4. of this annex."

Paragraph 5.1.4.2.6., amend to read:

"5.1.4.2.6. The power indicated by the dynamometer shall be 50 per cent of the ~~full throttle~~ power **with the accelerator control fully engaged**, measured at 75 per cent of the rated engine speed as defined in paragraph 2.7. of this Regulation."

Annex 4, amend to read:

"Annex 4

Maximum sound level limits (new vehicles)

<i>Maximum design speed in km/h</i>	<i>Maximum sound level values in dB(A)</i>
≤ 25	66

<i>Maximum design speed in km/h</i>	<i>Maximum sound level values in dB(A)</i>
> 25	71
cycles designed to pedal equipped with an auxiliary propulsion, other than electrical, with the primary aim to aid pedalling and output of auxiliary propulsion is cut off at a vehicle speed \leq 25 km/h	63

"

II. Justification

Paragraph 1.

1. Pure electric vehicles are excluded, due to the low level of sound emissions, which a priori should satisfy the sound emission level limits set out in this Regulation.

Annex 3, paragraph 2.2.1. and 3.2.3.2.

2. The sound level measurement conditions for the powered cycles with compressed air engine are included.

Annex 3, paragraphs 3.1.2.1., 3.2.3.3.2.2. and 4.2.

3. A more general term of "accelerator control" is introduced to cover also engines without "throttle" (e.g. compressed air engines).

Annex 3, paragraph 5.1.4.2.6.

4. This paragraph is suitably amended to introduce a more general term of "accelerator control" to cover also engines without "throttle" (e.g. compressed air engines).

Annex 4

5. The sound emission level limits for powered cycles are introduced for situations where these levels are measured in accordance with this Regulation.
