

29 January 2020

Agreement

Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations*

(Revision 3, including the amendments which entered into force on 14 September 2017)

Addendum 137 – UN Regulation No. 138

Revision 1 - Amendment 1

Supplement 1 to the 01 series of amendments – Date of entry into force: 11 January 2020

Uniform provisions concerning the approval of Quiet Road Transport Vehicles with regard to their reduced audibility

This document is meant purely as documentation tool. The authentic and legal binding text is: ECE/TRANS/WP.29/2019/55.



UNITED NATIONS

* Former titles of the Agreement:
Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, done at Geneva on 20 March 1958 (original version);
Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, done at Geneva on 5 October 1995 (Revision 2).



Paragraph 1., add a new footnote 3 to read:

"1. Scope

This Regulation applies to electrified vehicles of categories M and N¹ which can be propelled in the normal mode, in reverse or at least one forward drive gear, without an internal combustion engine operating² in respect to their audibility.³

³ See paragraph 5.1.1. for more detailed specifications on the application."

Add a new paragraph 5.1.1. to read:

"5.1.1. In case of hybrid vehicles, equipped with an internal combustion engine: if the manufacturer can demonstrate to the Type Approval Authority that the vehicle cannot be assessed according to the provisions of the Regulation because the internal combustion engine used for direct propulsion will be operational during the specified tests within this regulation, this Regulation shall be deemed not applicable to this vehicle."

Paragraph 6.2., amend to read:

"6.2. Acoustics characteristics

The sound emitted by the vehicle type submitted for approval shall be measured by the methods described in Annex 3 to this Regulation.

The specifications of this Regulation are applicable for the speed range of greater than 0 km/h up to and inclusive 20 km/h. Operation of an AVAS is permitted at vehicle speeds outside the specification range. AVAS may be operational independent of the operation of an internal combustion engine inside or outside of the specified operation range.

If the vehicle that is not equipped with an AVAS fulfils the overall levels as specified in Table 2 below with a margin of +3 dB(A), the specification for one-third octave bands and the frequency shift do not apply."

Add a new paragraph 6.2.6. to read:

"6.2.6. AVAS Sound Level Variation

If fitted, an AVAS may operate at different sound levels either automatically managed by the control unit or manually selected by the driver, each selected sound level shall be in compliance with the specifications outlined in paragraphs 6.2.1. to 6.2.3. and paragraphs 6.2.8. and 6.2.9."

Paragraphs 6.2.6. (former) to 6.2.8., renumber as 6.2.7. to 6.2.9., accordingly.

Annex 3

Paragraph 2.2., amend to read:

"2.2. Meteorological conditions

2.2.1. For outdoor facilities

Meteorological conditions are specified to provide a range of normal operating temperatures and to prevent abnormal readings due to extreme environmental conditions.

The meteorological instrumentation shall deliver data representative for the test site and shall be positioned adjacent to the test area at a height representative of the height of the measuring microphone.

A value representative of temperature, wind speed, relative humidity, and barometric pressure shall be recorded during the measurement interval.

The measurements shall be made when the ambient air temperature is within the

range from 5 °C to 40 °C.

The ambient temperature may of necessity be restricted to a narrower temperature range such that all key vehicle functionalities that can reduce vehicle noise emissions (e.g. start/stop, hybrid propulsion, battery propulsion, fuel-cell stack operation) are enabled according to manufacturer's specifications.

The tests shall not be carried out if the wind speed, including gusts, at microphone height exceeds 5 m/s, during the measurement interval.

2.2.2. For indoor facilities

Meteorological conditions are specified to provide a range of normal operating temperatures and to prevent abnormal readings due to extreme environmental conditions.

The meteorological instrumentation shall deliver data representative for the test site and values of temperature, relative humidity, and barometric pressure shall be recorded during the measurement interval.

The measurements shall be made when the ambient air temperature is within the range from 5 °C to 40 °C.

The ambient temperature may of necessity be restricted to a narrower temperature range such that all key vehicle functionalities that can reduce vehicle noise emissions (e.g. start/stop, hybrid propulsion, battery propulsion, fuel-cell stack operation) are enabled according to manufacturer's specifications."

Annex 3, Appendix,

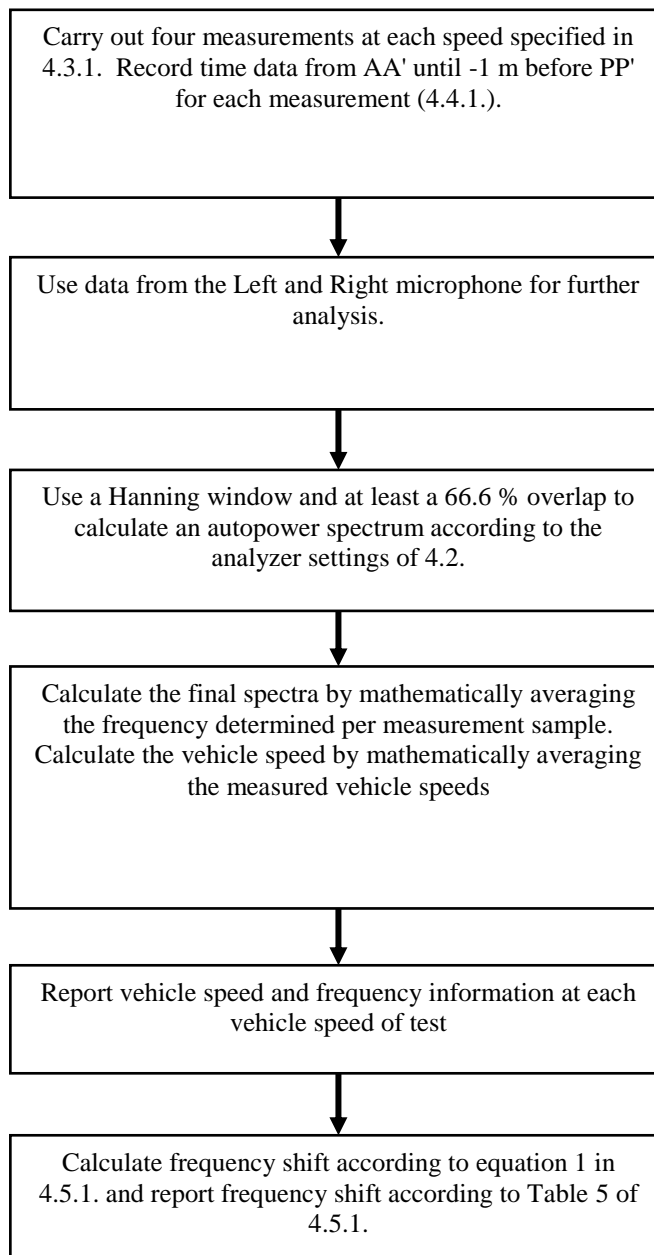
Figure 4, title, amend to read:

"Figure 4

Background Noise Parameter"

Figure 7b, amend to read:

"Figure 7b
Test procedures for measurement of frequency shift, Method A



"

Figure 7c, amend to read:

"Figure 7c

Test procedures for measurement of frequency shift, Methods B, C, D, and E

