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Item 4.6.2 of the provisional agenda

1958 Agreement:

Consideration of draft amendments to existing

UN Regulations submitted by GRBP

Proposal for Supplement 5 to the 03 series of amendments to UN Regulation No. 51 (Noise of M and N categories of vehicles)

Submitted by the Working Party on Noise and Tyres*

The text reproduced below was adopted by the Working Party on Noise and Tyres (GRBP) at its sixty-eighth session (ECE/TRANS/WP.29/GRB/66, para. 5). It is based on ECE/TRANS/WP.29/GRB/2018/10, as amended by para. 5 of the report. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee AC.1 for consideration at their March 2019 sessions.

* In accordance with the programme of work of the Inland Transport Committee for 2018–2019 (ECE/TRANS/274, para. 123 and ECE/TRANS/2018/21/Add.1, cluster 3.1), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate

Supplement 5 to the 03 series of amendments to UN Regulation No. 51 (Noise of M and N categories of vehicles)

Annex 3, Appendix,

Figure 4c, amend to read:

"Figure 4c

Flowchart for vehicles tested according to paragraph 3.1.2.1. of Annex 3 to this Regulation – Gear selection using locked gear PART 2"

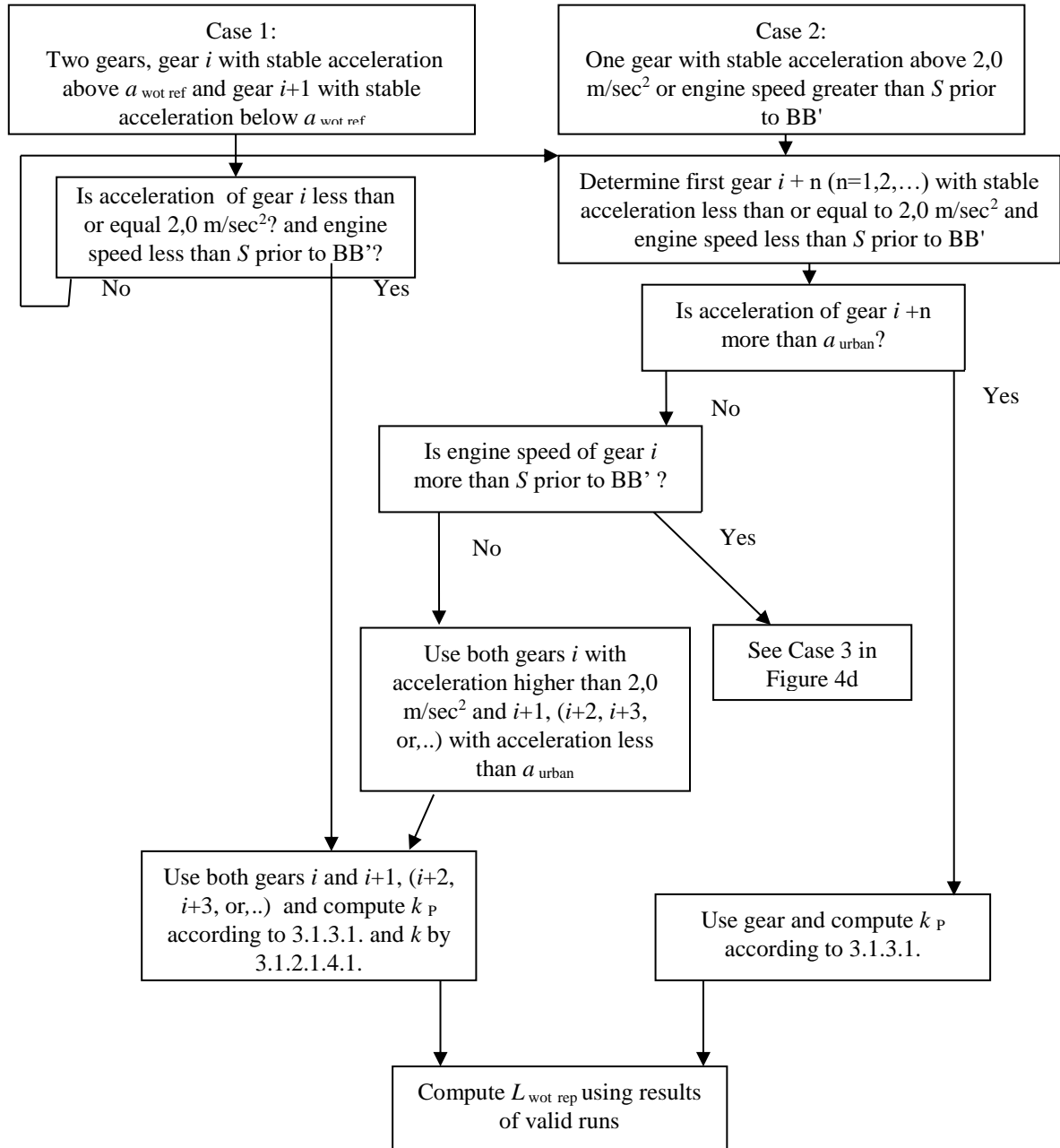


Table 1, amend to read:

"Table 1.

Examples for Devices and Measures to Enable a Vehicle Tested within the Acceleration Boundaries

No.	Impact	Sub No.	Measure	Additional Requirements
1	Lock of a discrete gear ratio	1*	A discrete gear ratio can be locked by the driver	none
		2	A discrete gear ratio is available onboard, but is not available to the driver. Locking can be activated by the manufacturer with an on board (hidden) function or with an external device	none
2	Controlled gear shift management: Applicable to transmissions which cannot be locked, or where no locked gear provides a valid test result	1*	Kickdown is deactivated	none
		2	Gear shift change(s) can happen during the test, gear shift is controlled by activation of an internal function or external device	Acceleration** shall be between a_{urban} and $a_{wot,ref}$, not exceeding 2.0 m/s ² .
3	Defined partial load driving ****	1	Acceleration is limited by a mechanical device	Defined acceleration** shall be between a_{urban} and $a_{wot,ref}$, not exceeding 2.0 m/s ² . For ASEP**, the anchor point parameter are calculated by:
		2	External Programming for partial load acceleration ****	$L_{anchor} = (L_{test} - k_p * L_{crs}) / (1 - k_p)$ with $k_p = 1 - a_{test} / a_{wot,ref}$ and $a_{wot,ref}$ according to 3.1.2.1.2.4. but not higher than 2.0 m/s ² $n_{anchor} = n_{bb,test} * 3.6 / v_{bb,test} * (a_{wot,ref} * (20 + 2 * 1) + 192,9)^{0,5}$
4	Mixed Solution (Mode): This measure will be a mix of the above solutions combined in a specific mode	1*	Mode is available onboard and can be selected by the driver	none
		2	Mode is available onboard and can only be activated by the manufacturer with a hidden function or an external device	none
		3	Mode is not available onboard, an external software overrides the internal software	Acceleration** shall be between a_{urban} and $a_{wot,ref}$, not exceeding 2.0 m/s ² .

* Comment: This is a standard situation, already covered by the Regulation text.

** Applicable to vehicles of category M₁, N₁ and M₂ ≤ 3,500 kg.

*** Partial load shall be achieved by simulation of the travel restriction of the accelerator. It is not allowed to interfere with the engine control management.

**** Applicable to vehicles of categories M₁, N₁ and M₂ ≤ 3,500 kg, for the further calculation of L_{urban} in Annex 3 the sound level measured under partial load shall replace the sound level under wide open throttle.

The achieved acceleration under partial load during the test shall be used for the calculation of the part power factor k_P instead of a_{wot ref}.

The test procedure and the data processing follow the same principle. Although it is tested in partial load, symbols \bar{x}_{wot} (e.g. L_{wot}, a_{wot}, ...) shall be used."

Annex 7, paragraph 5.2, amend to read:

"5.2. The determination of gear α is as follows:

$\alpha = 3$ for manual transmission and for automatic transmission tested in locked position with up to 5 gears;

$\alpha = 4$ for manual transmission and for automatic transmission tested in locked position with 6 or more gears. If the acceleration calculated from AA to BB + vehicle length in gear 4 exceeds 1.9 m/s², the first higher gear $\alpha > 4$ with an acceleration lower than or equal to 1.9 m/s² shall be chosen.

For vehicles tested under non-locked condition, the gear ratio for further calculation shall be determined from the acceleration test result in Annex 3 using the reported engine speed and vehicle speed at line BB'."
