

**Some proposals of interpretations on
UN R51.03 following
GRB-64-15 - (France) Some proposals to improve
efficiency of road vehicle noise regulations**

Prepared by LF Pardo (France)

Transmission Set Up of the representative vehicle

“If the vehicle allows different transmission setups like automatic or manual gear selection and/or different software programs or modes (e.g. sporty, winter, adaptive) leading to valid accelerations, the vehicle manufacturer shall prove to the satisfaction of the Technical Service, that **the vehicle is tested in the mode which achieves an acceleration being closest to $a_{wot\ ref}$** ”

→ Could we consider that the mode which usually achieves an acceleration being closest to $a_{wot\ ref}$ is **locked-gear** (using 1 gear with a $a_{wot\ ref} \pm 5\%$ or 2 gears).

Transmission Set Up of the representative vehicle

- Could principle be extend to transmission variant in a vehicle type ?



→ For a vehicle-type which can equipped either with locked or with non-locked transmission, could we recommend that the vehicle shall be tested **only in locked gear** instead of both with locked and non-locked gear.

Transmission Set Up of the representative vehicle

“The vehicle transmission, gear, or gear ratio may be controlled by electronic or mechanical measures to avoid the activation of a kick-down function.

Therefore, it is permitted to establish and use electronic or mechanical devices, including alternate gear selector positions, to prevent a downshift to a gear ratio which is typically not used for the specified test condition in urban traffic.”

→ Could we precise the use of electronic device by manufacturer to test in alternate gear ?

Transmission Set Up of the representative vehicle

“The vehicle transmission, gear, or gear ratio may be controlled by electronic or mechanical measures to avoid the activation of a kick-down function.”

How to define Kick-down function ?

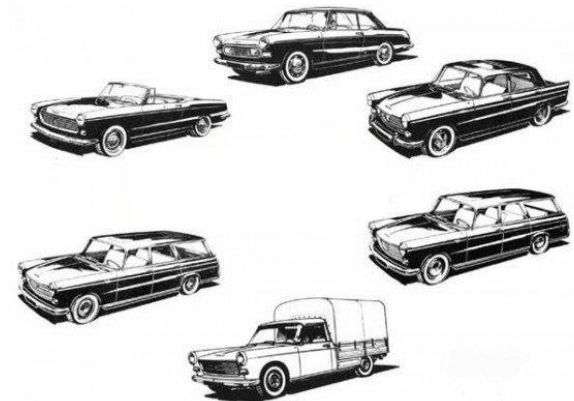
- Gear shifting
 - x gear shifting or
 - gear shifting to a gear ratio which is typically not used for the specified test condition in urban traffic
- Notch on pedal position close to end position
- ...

→ Could we precise kickdown function ?

Mass of the representative vehicle

- The test mass has to be measured with $\pm 5\%$ compared to target mass.
- Mass is not part of the Vehicle Type definition. In that case the representative vehicle selected for testing could be for example, a 5 seats or 7 seats, with or without option, ...

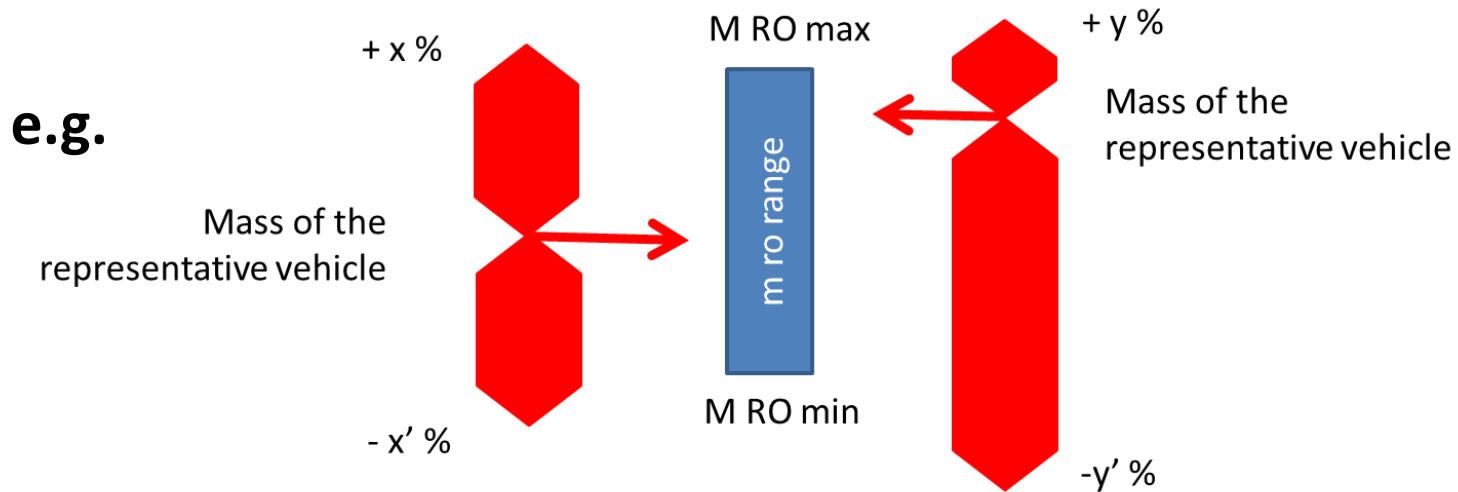
→ There is not only one mass in running order (target mass) but a range of mass in running order.



Mass of the representative vehicle

→ Could we consider range of m_{ro} ?

→ Could we precise how to select representative vehicle regarding range of m_{ro} ?



→ How to consider PMR, $a_{wot\ ref}$, a_{urban} , L_{urban} calculation... regarding m_{ro} range ?