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**Economic Commission for Europe****Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Brakes and Running Gear (GRRF)****Seventy-second session**

Geneva, 20–24 February 2012

Item 3(d) of the provisional agenda

**Regulations Nos. 13 and 13-H (Braking) - Clarifications****Proposal for Supplement 14 to the 00 series of amendments  
to Regulation No. 13-H (Brakes of M<sub>1</sub> and N<sub>1</sub> vehicles)****Submitted by the expert from CLEPA and OICA \***

The text reproduced below was prepared by the experts from the European Association of Automotive Suppliers (CLEPA) and from the International Organization of Motor Vehicle Manufacturers (OICA) to clarify the levels of braking performance that are reasonable in the different positions of the ignition key. The modifications to the current text of the Regulation are marked in bold for new or strikethrough for deleted characters.

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\* In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para. 106 and ECE/TRANS/2010/8, programme activity 02.4), 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 5.2.20.1., amend to read:

"5.2.20.1. ~~With the parking brake released, the service braking system shall be able to generate a static total braking force at least equivalent to that required by the prescribed Type-0 test, even when the ignition/start switch has been switched off and/or the key has been removed.~~

**With the parking brake released, the service braking system shall be able to fulfil the following requirements:**

- (a) **with the ignition locking system in the "On" ("Run") position and the key in, generate a static total braking force at least equivalent to that required by the Type-0 test for service braking performance as prescribed in paragraph 2.1. of Annex 3 to this Regulation,**
- (b) **during the first 60 seconds after the ignition locking system has been deactivated to the "Off" or "Lock" position and/or the key has been removed, one brake application shall generate a static total braking force at least equivalent to that required by the Type-0 test for service braking performance as prescribed in paragraph 2.1. of Annex 3 to this Regulation, and**
- (c) **after the period mentioned above, or as from the second brake application within the 60 second period, whichever occurs first, generate a static total braking force at least equivalent to that required by the Type-0 test for secondary braking performance as prescribed in paragraph 2.2. of Annex 3 to this Regulation.**

It should be understood that sufficient energy is available in the energy transmission of the service braking system."

## II. Justification

1. The current wording of paragraph 5.2.20.1. may be misinterpreted. This proposal intends to clarify which levels of braking performance are required in the different positions of the ignition key.
2. The practical need of this paragraph was to prescribe a suitable braking performance which would allow a driver, who releases the parking brake of a car parked on a slope, to prevent rollaway even when ignition has been turned off. In such a situation no braking from high speed is indeed required, secondary braking performance is sufficient.
3. After ignition off (i.e. engine stopped), common vacuum booster braking systems can still deliver service braking performance, however for a limited time only, until vacuum or electricity have been depleted.
4. Braking systems with electric control transmission can only produce full service braking performance as long as the system is energized. After ignition off, such systems shut down to avoid the battery depletion.
5. The above proposal considers that secondary braking performance is sufficient to hold the vehicle on a slope. However, similarly to common braking systems, which can still deliver the prescribed service braking performance for a limited time only, i.e. until the

vacuum has been depleted, it is required in this proposal that for at least one minute, the first brake application delivers the prescribed service braking performance. This behavior is therefore similar to that of current "conventional" vehicles with vacuum booster.

