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CLEPA and OICA

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Proposal for amendments to UN Regulation No. 13

The text reproduced below was prepared by the experts from the International Organization of Motor Vehicle Manufacturers (OICA) and from the European Association of Automotive Suppliers (CLEPA), addressing the type approval of a park lock device as an alternative to the friction parking braking to hold the vehicle. It is based on informal document GRVA-19-06 and on the workin g document ECE/TRANS/WP.29/GRVA/2024/38. The modifications to the existing text of the Regulations are marked in bold for new or strikethrough for deleted characters. The modifications to ECE/TRANS/WP.29/GRVA/2024/38 are marked in **bold, *cursive,* blue** characters.
The modifications to GRVA 20-06 are marked in **bold, *cursive,* blue** characters.

I. Proposal

Paragraph 5.2.1.10., amend to read:

"5.2.1.10. The service, secondary and parking braking systems shall act on braking surfaces connected to the wheels through components of adequate strength**.**

The parking braking system may use a *park lock* device as an alternative to *or in combination with* *the* means acting on the braking surfaces. This park lock device shall consist of components of an adequate strength and shall provide equal effectiveness compared to layouts purely acting on the braking surfaces to fulfil the requirements set out in annex 4, paragraphs 2.3.1. and 2.3.2. of this Regulation. ***It shall be ensured that the vehicle does not move more than [300] mm after the activation of the parking braking system before the park lock device is fully engaged.***

Where braking torque for a particular axle or axles is provided by both a friction braking system and an electrical regenerative braking system of category B, disconnection of the latter source is permitted, providing that the friction braking source remains permanently connected and able to provide the compensation referred to in paragraph 5.2.7.1.2.1. above.

However, in the case of short disconnection transients, incomplete compensation is accepted, but within 1s, this compensation shall have attained at least 75 per cent of its final value.

Nevertheless, in all cases, the permanently connected friction braking source shall ensure that both the service and secondary braking systems continue to operate with the prescribed degree of effectiveness.

Disconnection of the braking surfaces ***or of the park lock device, as relevant,*** of the parking braking system shall be permitted only on condition that the disconnection is controlled by the driver from his driving seat or from a remote-control device, by a system incapable of being brought into action by a leak.

The remote-control device mentioned above shall be part of a system fulfilling the technical requirements of an ACSF of Category A as specified in the 02 series of amendments to UN Regulation No. 79 or later series of amendments**.**"

Paragraph 5.1.4.4., amend to read:

"5.1.4.4. It shall be possible to generate maximum braking forces under static conditions on a rolling road or roller brake tester. ***If any special information or procedures are needed, these shall be made freely available."***

Paragraph 5.2.1.26.2. 3., amend to read:

5.2.1.26.2.3. A break in the wiring within the electric transmission, or an electric failure in the control of the parking braking system shall be signalled to the driver by the yellow warning signal specified in paragraph 5.2.1.29.1.2. When caused by a break in the wiring within the electric control transmission of the parking braking system, this yellow warning signal shall be signalled as soon as the break occurs. In addition, such an electric failure in the control or break in the wiring external to the electronic control unit(s) and excluding the energy supply shall be signalled to the driver by flashing the red warning signal specified in paragraph 5.2.1.29.1.1. as long as the ignition (start) switch is in the "on" (run) position including a period of not less than 10 seconds thereafter and the control is in the "on" (activated) position. However, if the parking braking system detects correct ***engagement*** ~~***clamping***~~ of the parking brake, the flashing of the red warning signal may be suppressed and the nonflashing red signal shall be used to indicate parking brake applied. Where actuation of the parking brake is normally indicated by a separate red warning signal, satisfying all the requirements of 5.2.1.29.3., this signal shall be used to satisfy the above requirement for a red signal

Paragraph 5.2.1.26.5., amend to read:

5.2.1.26.5. If the parking braking system detects a request (generated automatically or by the driver):
(a) To fully apply the parking brake (i.e. to reach the mechanically locked
position of the parking brake), or
(b) To gradually control the parking brake action,
The actuation of the warning as required in paragraph 2.6. of Annex 8 may be delayed until the parking brake system has detected the correct ~~***clamping***~~ ***engagement*** of the parking brake. The yellow warning signal specified in paragraph 5.2.1.29.1.2. shall be displayed at the latest 10s after the request for a full parking brake application, in the case the stable state is not reached.

II. Justification

This amendment enables the use of a park lock device as an alternative to a friction type parking braking system to fulfil the static requirements of UN Regulation No. 13 for parking braking systems.

After GRVA-19 the following observations were raised

(a) Switzerland requested a requirement to ensure that the rollaway distance after activation the Park Lock Device is limited. Based on CFR 571-114 – Standard No. 114 (Theft protection and rollaway prevention) the required rollaway distance of 150 mm is proposed. Based on this requirement the rollaway distance for commercial vehicles is derive from the ratio of the rolling circumference of tire for commercial vehicles compared to the rolling circumference of tire for passenger car.

rolling circumference for a commercial vehicle tire: 4525 mm (16.00 R25)
rolling circumference for a passenger car tire: 2200 mm (20´´ 265/40)

$$\text{ratio} = \frac{4525\text{mm}}{2200\text{mm}} \cong 2{,}05$$

→ rollaway distance for commercial vehicles 150 mm x 2,05 ≅ 300 mm

(b) To satisfy the static requirements by paragraphs 2.3.1. and 2.3.2. of annex 4 of this regulation, the wording "… or in combination with …" is introduced to clarify a technical solution consisting of a friction type parking brake and a park lock device or a combination of both.

(c) As the combination of friction type and park lock device or a combination of both will keep the vehicle in a static position, the wording engagement seems more appropriate as clamping.

(d) To enable the PTI inspection for a Park Lock Device specific, additional information is provided by manufacturer.