Submitted by the experts from
CLEPA and OICA

Informal document **GRVA-20-06**
20th GRVA, 23-27 September 2024
Provisional agenda item 8(c)

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 working 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.

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**.**"

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.