

**Economic and Social Council**Distr.: General
10 July 2024

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations**Working Party on Automated/Autonomous and Connected Vehicles****Twentieth session**

Geneva, 23-27 September 2024

Item 4(d) of the provisional agenda

Automated/autonomous and connected vehicles:**UN Regulation No. 157****Proposal for supplement to UN Regulation No. 13 (Heavy vehicle braking)****Submitted by the expert from the International Organization of Motor Vehicle Manufacturers and from the European Association of Automotive Suppliers ***

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. The modifications to the existing text of the Regulations are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2024 as outlined in proposed programme budget for 2024 (A/78/6 (Sect. 20), table 20.5), 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.

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 *the* means acting on the braking surfaces. This park lock device shall consist of components of an adequate strength and shall provide the effectiveness equally compared 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.

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

1. 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.

2. After introducing the basis proposal at the eighteenth GRVA session, the following concerns were raised by the following Contracting Parties:

(a) Italy asked that a technology neutral term instead “mechanical locking device” shall be applied, as there might other means in the future than a mechanical mean to provide technical solutions keeping a vehicle in standstill. To satisfy this request the device is now named “park lock device” instead “mechanical device”.

(b) Switzerland requested that the performance of such an alternative device to hold the vehicle shall be at least identical regarding its effectiveness than the friction type. To satisfy this request the requirement for the park lock device was amended in such, that it shall regard its effectiveness at least equal to the means acting on the braking surfaces.

(c) The United Kingdom of Great Britain and Northern Ireland requested to assess the park lock device during Periodical Technical Inspection (PTI). This is possible by applying the park lock device on the brake tester.