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**Economic Commission for Europe**

Inland Transport Committee

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

Item 5 (a) of the provisional agenda

**Connected vehicles:****Cyber security and data protection****Proposal for a new Supplement to the 01 and 02 Series of  
Amendments to UN Regulation No. 90 (Replacement braking  
parts)****Submitted by the expert from the European Association of Automotive  
Suppliers\***

This proposal was prepared by the expert from the European Association of Automotive Suppliers (CLEPA) to resolve the problem of fulfilling increasingly difficult Conformity of Production (CoP) routine obligations caused by unavailability of the specifically prescribed hardware. It is based on informal document GRVA-07-52. The modifications of the existing 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 2021 as outlined in proposed programme budget for 2021 (A/75/6 (Sect.20), para 20.51), 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

*Annex 9, Part A, paragraph 3.1.1.* amend to read:

- 3.1.1. The machine shall be equipped with a disc brake ~~of the fixed calliper type with a cylinder diameter of 60 mm and a solid (not ventilated)~~ **and corresponding brake disc having a diameter of  $278 \pm 2$  mm and a thickness of  $12 \text{ mm} \pm 0.5$  mm. such as to allow a  $\Delta$  rectangular piece of the friction material with an a surface area of  $44 \text{ cm}^2 \pm 0.5 \text{ cm}^2$  and a thickness of at least 6 mm to shall** be attached to the backing **plates of the disc brake.**

## II. Justification

1. Paragraph 3.1.1. of Annex 9 in UN Regulation No. 90, covering CoP testing for brake lining assemblies and drum brake linings for vehicles of categories M<sub>3</sub>, N<sub>2</sub>, N<sub>3</sub>, O<sub>3</sub>, and O<sub>4</sub>, currently requires the use of a very specific type and size of brake calliper and brake disc in order for the brake lining manufacturer to be able to demonstrate to the approving authority the consistency of production, batch to batch.
  2. This type of brake calliper and corresponding brake rotor were commonly available when the Regulation was first published in the early 1990's but this is no longer the case, with all major brake calliper manufacturers confirming that such brakes are no longer in series production.
  3. The consequence is that holders of UN Regulation No. 90 approvals around the world are finding it increasingly difficult to fulfil their routine CoP obligations because they cannot any longer locate and purchase the specifically prescribed hardware in order to conduct the tests. We therefore need to update paragraph 3.1.1. to reflect the current reality and avoid any hardware constraints in future.
  4. It is therefore proposed that we amend the regulation to remove the specific prescription as to the type and size of brake and size and form of brake disc but require the use of a pad area and thickness as originally specified, in order to provide consistency with past data.
  5. In order to change to new hardware it is anticipated that it will be necessary for the manufacturer, in agreement with the Type Approval Authority, to conduct a new set of baseline tests with the new hardware to "re-establish/re-confirm" CoP values to use as the reference data going forward.
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