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Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

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Item 4.1 of the provisional agenda

**Global technical regulation No. 9 (Pedestrian safety)–Phase 2
of the global technical regulation
(flexible legform impactor provisions)****Proposal for amendments to global technical regulation No. 9
(pedestrian safety)****Submitted by the expert from Germany***

The text reproduced below was prepared by the expert from Germany in order to amend ECE/TRANS/WP.29/GRSP/2010/2. The proposal aims to make mandatory the anterior cruciate ligaments (ACL) elongation and posterior cruciate ligaments (PCL) injury criteria in the Phase 2 of global technical regulation (gtr) No. 9 (pedestrian safety). It is based on a document without symbol (GRSP-46-32) distributed during the forty-sixth session of the Working Party on Passive Safety (GRSP). The modifications to the text of ECE/TRANS/WP.29/GRSP/2010/2 are marked in strikethrough characters.

* In accordance with the programme of work of the Inland Transport Committee for 2006–2010 (ECE/TRANS/166/Add.1, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Statement of technical rationale and justification

Paragraph 113., amend to read:

“113. In summary... At the following limits

For EEVC WG17....

For Flex-PLI

....

{Maximum ACL and PCL elongation \leq [13] mm ~~only for monitoring purposes or nothing or mandatory~~.”

II. Justification

This document proposes to modify the Japanese proposal to develop amendments to gtr No. 9 by making the injury criteria for ACL/PCL mandatory. Thus, the same level of protection will be included in the amended gtr No. 9 as provided in the current version of the gtr for this body section.

By incorporating the FlexPLI in the gtr, the “knee shearing displacement” is no longer applicable as an injury criteria. According to in-depth accident data in Germany, the relevance of ACL/PCL injuries is not lower but at least as high as the medial collateral ligament (MCL) injuries in lateral car-to-pedestrian impacts. Accidents show that injuries of ACL occur although MCL is not fractured. This means that ACL is not sufficiently protected by just meeting MCL requirements.

Therefore the proposal is to make the injury criteria for ACL/PCL mandatory with the incorporation of the FlexPLI in gtr No. 9.