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World Forum for Harmonization of Vehicle Regulations

Executive Committee of the 1998 Global Agreement

**PROPOSAL TO DEVELOP AMENDMENTS TO GLOBAL TECHNICAL
REGULATION No. 9 CONCERNING PEDESTRIAN SAFETY**

Technical Sponsor: Germany */

The text reproduced below was adopted by the Executive Committee (AC.3) of the 1998 Global Agreement at its twenty-sixth session, in June 2009. It is based on document ECE/TRANS/WP.29/2009/80 and on informal document No. WP.29-148-08, which have been submitted by Germany and Japan respectively. The document also contains an announcement made by the representative of the United States of America indicating that alternative proposals by the United States of America could be transmitted to the Working Party on Passive Safety (ECE/TRANS/WP.29/1077, para. 92). The document is transmitted to the Working Party on Passive Safety. This document shall be appended to the global technical regulation in conformity with paragraph 6.2.7. of the Agreement. The proposed amendments to the current text of the global technical regulation are marked in bold characters or as strikethrough.

*/ 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. This document shall be appended to the global technical regulation in conformity with paragraph 6.2.7. of the Agreement
GE.09-

I. STATEMENT OF TECHNICAL RATIONALE AND JUSTIFICATION

A. Introduction

1. The objective of this proposal is to amend the current global technical regulation (gtr) No. 9 on pedestrian safety to improve the safety for pedestrians and other vulnerable road users. The purpose of this global technical regulation is to improve the front structures of vehicles which have been identified as causing injury during a collision with a pedestrian or other vulnerable road user.

2. The current text of gtr No. 9 only foresees the concept of "Flat Front Vehicles", and consequently the exemption from the pedestrian safety requirements, for vehicles of Categories 1-2 and 2. The objective of this proposal is to introduce an amendment to gtr No. 9, providing that this exemption should equally apply to some Category 1-1 vehicles (i.e. passenger cars), subject to some conditions.

B. Justification of changes

3. At the November 13, 2008 Session of the Executive Committee, the European Community (EC), as a Contracting Party of the 1998 Global Agreement, under the World Forum for Harmonization of Vehicle Regulations (WP.29), voted in favour of establishing the global technical regulation (gtr) on Pedestrian Safety (gtr No. 9).

4. Further to the adoption of this gtr, the EC finalized its Regulation (EC) 78/2009 on Pedestrian Safety requirements (Phase 2), the development of which was largely based on gtr No. 9.

5. The EC procedure was finalized by the European Council of Ministers and the European Parliament, under the commonly called "co-decision process". Vehicle component manufacturers, motor vehicle manufacturers, and their representative associations were generally supportive of the proposed text as well as the gtr process. One of the issues raised concerned the needed exemptions for particular vehicle designs (Flat Front Vehicles - FFV) and the European Community, after careful considerations, acknowledged that these particular vehicle designs warranted special treatment.

6. The current and planned vehicle fleets include a group of flat front models with exactly or nearly identical front shapes (approved either as category 1-1, 1-2 or as category 2 vehicles) but slightly differing with regard to the distance between the front axle and the R-point around the current 1,000 mm borderline ($d \approx 960 \text{ mm} \dots 1,070 \text{ mm}$). The current boundary of $d < 1,000 \text{ mm}$, which was set up rather randomly, results in the fact that very similar models within this group, whether from the same or from different manufacturers, would be rated very differently. On the basis of extensive review of the vehicle fleets, it is therefore proposed to slightly increase the current limit of 1,000 mm to the figure of 1,100 mm, in order to ensure that all vehicles under this limit would be treated in the same way, thereby also avoiding distortions of competition among the various manufacturers. Germany consequently proposes that gtr No. 9 should be slightly amended such that vehicles where the longitudinal distance d between the

front axle and the driver's seat R-point is less than 1,100 mm are considered as "Flat Front Vehicles"

7. All the studies conducted for the drafting of the gtr were based on classical sedan-type shapes and did not really take into account flat front vehicles, where the front shape is close to the vertical (e.g. where the bonnet effective angle, as defined in the Japanese legislation, exceeds 40°) and where the bonnet is very short (e.g. several goods delivery vans). */

8. Frequently, vehicles of the same manufacturer are produced in two configurations, i.e. one version produced as a Category 2 (commercial vehicle), while the other one is a Category 1-1 (passenger car). Both vehicles have exactly the same Flat Front structure; the current text of gtr No. 9 exempts the Category 2 version, while the Category 1-1 version is not exempted. This discrepancy should be corrected.

9. During the twenty-sixth session of AC.3, the secretariat was requested to prepare the corresponding AC.3 document, and to transmit it to GRSP for consideration, on the basis of ECE/TRANS/WP.29/2009/80 complemented by WP.29-148-08.

10. At the same session, the representative of the United States of America announced possible alternative amendments to the proposal and requested to indicate this possibility in the AC.3 document to be prepared by the secretariat (ECE/TRANS/WP.29/1077, para. 92).

II. PROPOSED AMENDMENTS BY GERMANY

B. TEXT OF THE REGULATION

Paragraph 2.1., amend to read:

"2.1. This global technical regulation (gtr) shall apply to the frontal surfaces of power driven vehicles of category 1-1 with a gross vehicle mass exceeding 500 kg; and of category 1-2 with a gross vehicle mass exceeding 500 kg but not exceeding 4,500 kg; and of category 2 with a gross vehicle mass exceeding 500 kg but not exceeding 4,500 kg. 1/

However, power driven vehicles of **category 1-1 with a gross vehicle mass exceeding 2,500 kg which are derived from category 2**, category 1-2 and category 2, where the distance, measured longitudinally on a horizontal plane, between the transverse centre

*/ Such uncertainties were also highlighted by the Transport Research Laboratory (TRL) in its 2006 final project report (UPR/VE/045/06 under EC contract ENTR/05/17.01) to the European Commission.

1/ A contracting party may restrict application of the requirements in its domestic legislation if it decides that such restriction is appropriate.

2/ A contracting party that has already enacted legislation prior to the establishment of this gtr in the global registry of global technical regulations may maintain their existing application/ scope.

line of the front axle and the R-point of the driver's seat is less than ~~1,000~~ **1,100** mm, are exempt from the requirements of this regulation. 2/

All definitions of Special Resolution No. 1 shall apply as necessary."

Insert new paragraph 3.28., to read:

"3.28. Vehicles of category 1-1 derived from vehicles of category 2 means those vehicles of 1-1 category which, forward of the A-pillar, have the same general structure and shape as a pre-existing category 2 vehicle."

Paragraphs 3.28. and 3.29.(former), renumber as paragraphs 3.29. and 3.30.

Figure 10, the title, amend to read:

"Figure 10: Wrap around distance measurement (see paragraph ~~3.28.~~ **3.29.**)"

III. ALTERNATIVE PROPOSED AMENDMENTS BY JAPAN

B. TEXT OF THE REGULATION

Paragraph 2.1., amend to read:

"2.1. This global technical regulation (gtr) shall apply to the frontal surfaces of power driven vehicles of category 1-1 with a gross vehicle mass exceeding 500 kg; and of category 1-2 with a gross vehicle mass exceeding 500 kg but not exceeding 4,500 kg; and of category 2 with a gross vehicle mass exceeding 500 kg but not exceeding 4,500 kg. 1/

However, power driven vehicles of ~~category 1-1 with a gross vehicle mass exceeding 2,500 kg which are derived from category 2,~~ category 1-2 and category 2, where the distance, measured longitudinally on a horizontal plane, between the transverse centre line of the front axle and the R-point of the driver's seat is less than ~~1,000~~ 1,100 mm, are exempt from the requirements of this regulation. 1/

All definitions of Special Resolution No. 1 shall apply as necessary.

1/ A Contracting Party may restrict application of the requirements in its domestic legislation if it decides that such restriction is appropriate; **e.g. category 1-1 with a gross vehicle mass exceeding 2,500 kg which are derived from category 2 may be exempt from the requirement of this regulation.**

~~1/ A contracting party that has already enacted legislation prior to the establishment of this gtr in the global registry of global technical regulations may maintain their existing application/ scope.~~

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