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PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 16
(Safety-belts)

Revision

Transmitted by the expert from France

Note: The text reproduced below was prepared by the expert from France as offered at the thirty-sixth session of GRSP (TRANS/WP.29/GRSP/36, para. 14). Its aim is to introduce into Regulation No. 16 requirements concerning the fitting of safety-belt reminders. It is based on document TRANS/WP.29/GRSP/2004/26 and Corr.1 and includes comments from document TRANS/WP.29/GRSP/2004/22 and from informal documents Nos. GRSP-36-3, 4 and 7. Where consensus was not found [the text is in brackets].

Note: This document is distributed to the Experts on Passive Safety only.

A. PROPOSAL

Paragraph 1., amend to read:

"1. This Regulation applies

It also applies to safety-belt reminder fitted in M1 category of vehicles."

Insert new paragraphs 2.39. to 2.44.[2.45], to read:

"2.39. "Safety-belt Reminder", means a system dedicated to alert the driver when he/she does not use the safety-belt. The system is constituted by a detection of an unfastened safety-belt and by two levels of driver's alert: a first level warning and a second level warning.

2.40. "Visual warning" means a warning by visual signal (lighting, blinking or visual display of symbol or message).

2.41. "Audible warning" means a warning by sound signal.

2.42. "First level warning" means a visual warning activated when the ignition switch is engaged (engine running or not) and the driver's safety-belt is not fastened. An audible warning can be added as an option.

2.43. "Second level warning" means a visual and audible warning activated when a driver operates a vehicle without fastening the safety-belt.

2.44. "Safety-belt is not fastened" means, at the option of the manufacturer, either the driver safety-belt buckle is not engaged or the webbing length pulled out of the retractor is 100 mm or less.

[2.45. "Vehicle is in normal operation" means that vehicle is in forward motion at the speed greater than 10 km/h.]"

Paragraph 8.1., including a new footnote */ , amend to read:

"8.1. Safety-belt and restraints systems equipment"

Insert new paragraphs 8.4. to 8.4.1., to read:

"8.4. Safety-belt reminder equipment.

8.4.1. The driver seating position of the M1 category of vehicles */ , shall be equipped with a safety-belt reminder satisfying the requirements of the present Regulation.

*/ As defined in the Consolidated Resolution of Construction of Vehicles (R.E.3), Annex 7 (document TRANS/WP.29/78/Rev.1/Amend.2)"

Insert new paragraphs 8.4.2. to 8.4.2.5. to read :

- "8.4.2. Safety-belt Reminder.
- 8.4.2.1. General requirements.
- 8.4.2.1.1 Visual warning shall be so located as to be readily visible and recognisable in the daylight by the driver and distinguishable from other alerts.
- 8.4.2.1.2. Visual warning shall be by continuous or intermittent signal.
- 8.4.2.1.3. Audible warning shall be by continuous or intermittent sound signal or by vocal information. This signal may be constituted by more than one step.
- 8.4.2.1.4. Audible warning shall have a loud and clear signal so as to be easily recognized by the driver.
- 8.4.2.2. First level warning shall be at least a visual warning activated for 4 seconds or longer when the driver safety-belt is not fastened and the ignition switch is engaged.
- 8.4.2.3. The activation of the first level warning shall be tested according to the test procedure defined in Annex 18, paragraph 1.
- 8.4.2.4. Second level warning shall be a visual and audible signal activated for 30 seconds or longer [except for cases in which the warning stops for over 3 seconds] when the safety-belt is not fastened, when the vehicle is in forward motion [normal operation] and when at least one of the following conditions or any combination of these conditions depending on the manufacturer's choice, is fulfilled:
 - 8.4.2.4.1. distance driven greater than distance threshold; threshold \leq 500 m. [Depending on the manufacturer's choice, the distance the vehicle is not in normal operation may be excluded.]
 - 8.4.2.4.2. speed greater than speed threshold; threshold \leq 25 km/h.
 - 8.4.2.4.3. duration time (engine running) greater than duration time threshold; threshold \leq 60 seconds.
[Depending on the manufacturer's choice, the first level warning duration time and the duration time the vehicle is not in normal operation may be excluded.]
- 8.4.2.5. The activation of the second level warning shall be tested according to the test procedure defined in Annex 18, paragraph 2."

Insert a new Annex 18, to read:

"Annex 18.

SAFETY-BELT REMINDER TESTS

1. The first level warning shall be tested according to the following conditions:
 - Safety-belt is not fastened,
 - Engine is stopped or idling and the vehicle is not in forward or reverse motion,
 - Transmission is in neutral position
 - Ignition switch is engaged,
2. The second level warning shall be tested according to the following conditions:
 - Safety-belt is not fastened,
 - Test vehicle driven with one or any combination of the conditions of paragraphs 2.1 to 2.3. of this Annex at the manufacturer's choice.
- 2.1. accelerate the test vehicle to 25 -0/+10 km/h from a halt and continue on the same speed.
- 2.2. the test vehicle is driven forward at least 500 m from a halt position,
- 2.3. the vehicle is tested when its engine has been running for at least 60 seconds,
3. A system that the first level warning stops after a certain period of time, the second level warning shall be tested according to paragraph 2. of this Annex after the first level warning has been deactivated.

A system that the first level warning does not stop after a certain period of time, the second level warning shall be tested according to paragraph 2. of this Annex. while the first level warning is activated."

* * *

B. JUSTIFICATION

Principles

The safety-belt use is mandatory in most countries around the world. In order to favour the safety-belt use by the passengers, it seems to be relevant to define harmonized requirements with regard to a mandatory system to alert the passengers when they do not use the safety-belt.

It has been demonstrated in many studies conducted in different countries and by the European Enhanced Vehicle Safety Committee (EEVC) that a high rate of safety-belt uses provides a positive impact on road safety.

The purpose of this system is to define two levels of alert when the safety-belt is not used:

- a first level characterized by a visual signal completed as an option with an audible signal,
- a second level characterized by a visual and an audible signal.

The system shall be designed in such a way that it provides assistance to the passengers and creates a reflex for the use of the safety-belts. The target is that an increased number of people realize the benefits of the safety-belt and actually use it.

The system should not give rise to any rejection by the user or incitation to bypass or damage the system.

Scope

The final objective is that these requirements be applicable to all categories of vehicle which have to comply with the mandatory safety-belt fitting and use requirements by all passengers of the vehicle.

Nevertheless, the enforcement of these new requirements should be progressive, taking into consideration the possible technical and cost barriers of the feasibility of fitting such a device for certain categories of vehicles and for certain seating positions.

As a first step, these requirements should be applied to the driver seating position of the M1 category of vehicles. A large part of the vehicle fleet of this category is already provided with it.

In the case when the device is fitted as optional equipment on to an other category of vehicle or to another seating position, the specifications for the driver seating position should be applied with appropriate modifications, if necessary.

The long-term enforcement of the use of this device will need a technical and economic feasibility assessment, taking into consideration the technical progress, the consumers' acceptance and the real impact on road safety.
