



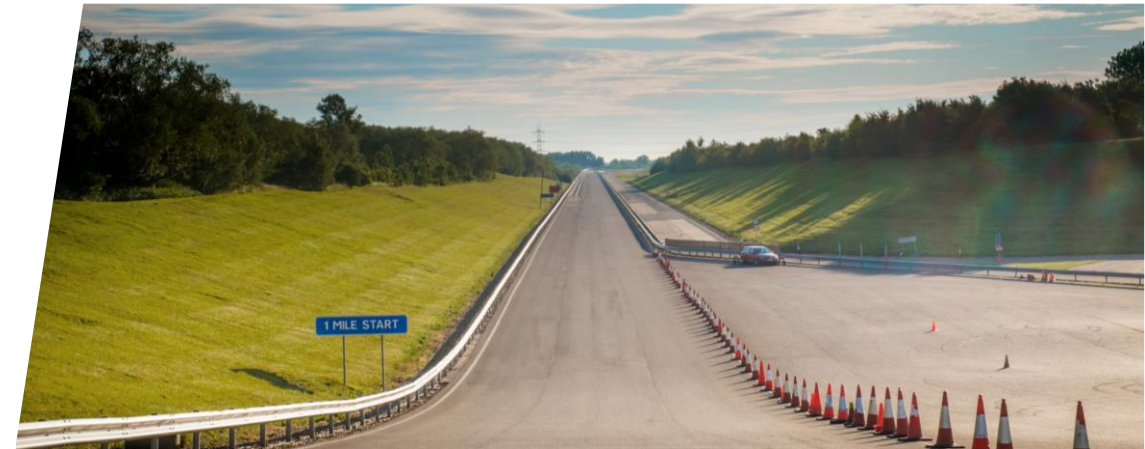
Informal document GRSP-72-23  
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agenda item 5)

## GR Sécurité Passive – 72<sup>th</sup> session

### **France**

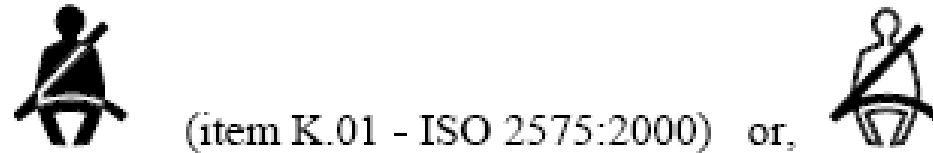
**Proposal for 09 series of amendments to  
UN Regulation No. 16 (Safety-belts)**

**12/2022**



- The requirements for Seat Belt Reminder (SBR) systems have been integrated in serie 05 of the UN regulation 16 and SBR were initially only required for the driver seat.
- The regulation was than amended in serie 7 to require that other seating position (seats in the same row as the driver and rear seats) shall be equipped with a SBR system.
- This amendment aims at clarifying some requirements of the text concerning :
  - Requirements for Seat belt Reminder of rear seat row(s) (first and second level warning)
  - Visual warning
  - Test procedure (first and second level warning)

- SBR systems were initially only required for the driver seat. The requirements of the visual warning were detailed in §8.4.2.1., including the following symbol :



- The regulation was than amended in serie 7 to require that other seats shall be equipped with a SBR system :
  - For SBR of driver and occupants of seats in the same row as the driver, it is required in §8.4.3.2. that the colour and symbol of the visual warning shall be as defined in item 21 in Table 1 of REG. 121. The symbol in REG 121 is the same as the symbol shown in §8.4.2.1. of REG 16
    - In that case, the information is redundant
  - For SBR of occupants of rear seat row(s), it is required in §8.4.4.3. that the colour of the visual warning may be other than red and the symbol of the visual warning for safety-belts covered by §8.4.1.2 may contain different symbols other than defined in Regulation No.121.
    - In that case, there is no reference the symbol in §8.4.2.1
- In order to avoid any misinterpretation and to clarify the text, the symbol presented in §8.4.2.1. should be removed.

- The first level warning of seating positions of the rear seat row(s) of M1 and N1 category vehicles may be cancellable by the driver. However, it is not clear whether that the cancellation must be done consciously or not.

Example : if the driver wants to check the fuel tank autonomy (by activating a command) and the information covers the SBR symbol on the vehicle instrument panel, then he has not consciously covered the SBR symbol yet the information is not present anymore.

- In order to clarify the text, §8.4.4.3. should be amended to specify that the driver is aware of the cancellation

**"8.4.4.3.** The colour of the visual warning may be other than red and the symbol of the visual warning for safety-belts covered by paragraph 8.4.1.2 may contain different symbols other than defined in Regulation No.121. In addition, the first level warning of seating positions covered by paragraph 8.4.1.2 may be cancellable by the driver. **In that case, the driver shall be aware that he cancels the first level warning.**

- The requirements for the second level warning of the rear seats are specified in §8.4.4.5. :

8.4.4.5. | The second level warning shall be activated when a safety-belt becomes unfastened while the vehicle is in normal operation and while, at the same time, any one condition or any combination of the conditions, at the choice of the manufacturer, set out in paragraphs 8.4.2.4.1.1. to 8.4.2.4.1.3. is satisfied.

- The tests procedure indicates that it is required to test the rear seat when the safety-belt becomes unbuckled during the journey (Annex 18 §2.3.) .
- As an alternative, at the request of the vehicle manufacturer, the test procedures for the seating position(s) in the same row as the driver's seat may be used for any rear seating position instead (Annex 18 §2.2. to 2.2.2.). These test procedures must be done when the safety-belt is unfastened before the journey and when the safety-belt becomes unbuckled during the journey.
- However, in §8.4.4.5., the first testing condition (when the safety-belt is unfastened before the journey) is not specified in the requirement. To clarify the text, §8.4.4.5. should be amended to take into account this alternative:

**"8.4.4.5.** The second level warning shall be activated when a safety-belt becomes unfastened while the vehicle is in normal operation, **or at the choice of the manufacturer when the safety-belt is or becomes unfastened while the vehicle is in normal operation**, and while, at the same time, any one condition or any combination of the conditions, at the choice of the manufacturer, set out in paragraphs 8.4.2.4.1.1. to 8.4.2.4.1.3. is satisfied."

# Test procedure : First level warning

- In the first level warning test procedure (Annex 18 §1), 4 alternatives exist to detect the presence of an occupant :
  1. A load of 40 kg is placed on each seat cushion in the same row as the driver's seat, or
  2. the state in which occupants are on board the vehicle is simulated by an alternative method specified by the vehicle manufacturer, provided an occupant's load does not exceed 40 kg.Or alternatively (at the choice of the manufacturer) :
  3. An object or human representing a 5th percentile adult female 1/ is placed on each seat cushion as specified by the manufacturer in the same row as the driver seat, or
  4. **the state in which occupants are on board the vehicle is simulated by an alternative method specified by the vehicle manufacturer as agreed by the technical service and the approval authority.**
- The fourth alternative is not really clear and could lead to misinterpretation. Indeed, a 80 kg human being would fit this alternative, which is not coherent with the 3 previous alternatives (corresponding to a 40kg human being or a 5<sup>th</sup> percentile female)
- Therefore, this option should be specified.

the state in which occupants **representing a 5th percentile adult female 1/** are on board the vehicle is simulated by an alternative method specified by the vehicle manufacturer as agreed by the technical service and the approval authority.

# Test procedure : Second level warning (1)

- For the driver's seat and for the seat(s) in the same row as the driver's seat, it is required that the second level warning shall be activated when a safety-belt is or becomes unfastened while the vehicle is in normal operation.
- The test procedure when the safety-belt is unfastened before the journey is specified in Annex 18 §2.1.1 and 2.2.1.
- The following steps shall be followed :

## 2.1.1. Testing the driver's seat when the safety-belt is unfastened before the journey

- (a) The safety-belt of the driver's seat is not fastened;
- (b) The safety-belts of seats other than the driver's seat are fastened;
- (c) Test vehicle driven with one or any combination of the conditions of paragraphs 2.1.1.1. to 2.1.1.3. of this annex at the manufacturer's choice.
- (d) The state of the safety-belt reminder is checked for the driver's seat, in conditions (a) to (c).

2.1.1.1. Accelerate the test vehicle to 25 -0/+10 km/h from a halt and continue on the same speed.

2.1.1.2. The test vehicle is driven forward at least 500m from a halt position.

2.1.1.3. The vehicle is tested when the vehicle is in normal operation for at least 60 seconds.

- However, in §2.1.1.2., it is not specified that the vehicle has to be in normal operation, whereas it is indicated in §2.1.1.3. This proposal aims at correcting this point.

**"2.1.1.2. The test vehicle is driven forward at least 500m in normal operation from a halt position "**

## Test procedure : Second level warning (2)

- The testing procedure for the second level warning of the driver's seat are divided between 2 cases : when the safety belt is unbuckled before the journey (1) and when the safety-belt becomes unbuckled (2)
- The text requests that the threshold shall be set out from the point in time at which unfastening occur :

8.4.2.4.5. For the condition that a safety belt becomes unfastened pursuant to paragraphs 8.4.3.3. and 8.4.4.5., the thresholds set out in paragraphs 8.4.2.4.1.1. to 8.4.2.4.1.3. shall be measured from the point in time at which unfastening occurs.

- The testing procedure when the safety-belt becomes unbuckled is detailed in Annex 18 §2.1.2. The driving conditions of the test vehicle, in that case, refer to the 3 driving conditions when the safety belt is unbuckled before the journey (§2.1.1.1. to 2.1.1.3)

2.1.1.1. Accelerate the test vehicle to 25 -0/+10 km/h from a halt and continue on the same speed.

2.1.1.2. The test vehicle is driven forward at least 500m from a halt position.

2.1.1.3. The vehicle is tested when the vehicle is in normal operation for at least 60 seconds.

→ The second driving condition indicates that it is driven from halt position. This is not consistent with paragraph 8.4.2.4.5. The text should be clarified.



## Test procedure : Second level warning (3)

- In the first level warning test procedure (Annex 18 §1), 4 alternatives exist to detect the presence of an occupant, including the second alternative :

(e) A load of 40 kg is placed on each seat cushion in the same row as the driver's seat, or the state in which occupants are on board the vehicle is simulated by an alternative method specified by the vehicle manufacturer, provided an occupant's load does not exceed 40 kg. This may also be done for the rear seats at the request of the vehicle manufacturer.

- However, when testing the second level warning for the seat(s) in the same row as the driver's seat when the safety-belt is unfastened before the journey (Annex 18 § 2.2.1), a similar condition is requested, without the mention "provided an occupant's load does not exceed 40 kg" :

(c) A load of 40 kg is applied to the seat(s) in the same row as the driver's seat, or the state in which occupants are on board the vehicle is simulated by a method specified by the manufacturer;

- In order to avoid any difference of interpretation and clarify the text, we propose to add this mention in Annex 18 § 2.2.1c).
- The same modification is provided to the testing condition of the seat's other than the driver's seats in Annex 18 §2.2.2.

### "2.2.1

Testing the seat(s) in the same row as the driver's seat when the safety-belt is unfastened before the journey:

(a) The safety-belt(s) of the seat(s) in the same row as the driver's seat is/are not fastened;

(b) The safety-belts of the seats other than the seat(s) in the same row as the driver's seat are fastened;

(c) A load of 40 kg is applied to the seat(s) in the same row as the driver's seat, or the state in which occupants are on board the vehicle is simulated by a method specified by the manufacturer, **provided an occupant's load does not exceed 40 kg.**

- Feedback from other CP and NGOs before February 2023.
- Preparation of a working document for GRSP 73th session



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