

**Economic and Social Council**Distr.: General
21 September 2015

Original: English

Economic Commission for Europe**Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Passive Safety****Fifty-eighth session**

Geneva, 8-11 December 2015

Item 20 of the provisional agenda

Collective amendments to Regulations Nos. 14 and 16**Proposal for Supplement 7 to the 06 series of amendments to Regulation No. 14 and Supplement 7 to the 06 series of amendments to Regulation No. 16****Submitted by the expert from the Netherlands***

The text reproduced below was prepared by the expert from the Netherlands to clarify height requirements for the effective upper belt anchorage introduced by the Supplement 4 to the 07 series of amendments to UN Regulation No. 14. This text is based on document ECE/TRANS/WP.29/GRSP/2015/10 distributed during the fifty-seventh session of the Working Party on Passive Safety (GRSP). The modifications to the current text of the UN Regulations Nos. 14 and 16 are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal for Supplement 7 to the 06 series of amendments to Regulation No. 14 (Safety belt anchorages)

Paragraph 5.4.3.6.1., amend to read:

"5.4.3.6.1. Notwithstanding ... are met:

- (a) The safety belt or seat shall be permanently marked to identify the position of the effective upper belt anchorage that is required to satisfy the minimum upper anchorage height position required by paragraph 5.4.3.6. This marking shall clearly indicate to the user when the anchorage is in a position suitable for use by an adult of average stature. **The safety belt or seat shall also be permanently marked to indicate that this safety-belt shall not be used by children at 0 to 3 years of age. The marking shall be as following:**



- (b) ...
- (d) The manufacturer ... of short stature.

However, where the device for adjusting the shoulder height is not directly attached to the vehicle construction or seat construction, but is realized by means of a flexible shoulder adjustment device for height:

- (e) **the requirements mentioned in the subparagraphs (a) and (d) above shall still be fulfilled as part of the Regulation No. 14 type approval making use of the restraint system that is to be installed.**
- (f) **evidence is needed that the safety-belt together with its flexible shoulder adjustment for height complies with the requirements for restraint systems of Regulation No. 16; the requirements in the subparagraphs (b) and (c) shall be fulfilled under paragraph 8.3. of Regulation No. 16 type approval."**

II. Proposal for Supplement 7 to the 06 series of amendments to Regulation No. 16 (Safety-belts)

Paragraph 2.14.6., amend to read:

"2.14.6. Belt adjustment device for height

A device enabling the position in height of the upper pillar loop (**directly connected to the vehicle or the rigid seat structure**) of a belt to be adjusted according to the requirements of the individual wearer and the position of the seat. Such a device may be considered as a part of the belt or a part of the anchorage of the belt."

Insert a new paragraph 2.14.7., to read:

"2.14.7. "Flexible shoulder adjustment device for height"

A device for adjusting to the shoulder height of the individual wearer, where the adjusting part is not directly attached to the vehicle construction (e.g. pillar) or the seat construction (e.g. the rigid seat structure), but where the adjusting is realized via a flexible (belt-on-belt) construction, receiving its adjusting forces and being situated above the shoulder that needs height adjusting."

Paragraph 6.2.3.2., amend to read:

"6.2.3.2. Two samples of each belt adjusting device **and also each flexible shoulder adjustment device for height**, shall be tested in accordance with the requirements of paragraph 7.3. below. The strap slip shall not exceed 25 mm for each sample of adjusting device and the sum of shifts for all the adjusting devices shall not exceed 40 mm."

Paragraph 6.4.1.2.3., amend to read:

"6.4.1.2.3. In the case of a belt intended for use with a belt adjustment device for height, as defined in paragraph 2.14.6. above, the test shall be carried out with the device adjusted in the most unfavourable position(s) chosen by the Technical Service responsible for testing. However:

6.4.1.2.3.1. if the belt adjustment device for height is constituted by the belt anchorage, as approved in accordance with the provisions of Regulation No. 14, the Technical Service responsible for testing may, at its discretion, apply the provisions of paragraph 7.7.1. below;"

Insert new paragraph 6.4.1.2.3.2., to read:

"6.4.1.2.3.2. if a flexible shoulder adjustment device for height is part of the belt, it shall be tested as a restraint system and the Technical Service responsible for testing shall apply the provisions under paragraph 7.7.1. that count for testing on the part of the vehicle structure to which the restraint system is normally fitted."

Paragraph 6.4.2.2., the table, amend to read:

"6.4.2.2. The parts of the ... A new sample shall be used for each procedure.

	<i>Procedure 1</i>	<i>Procedure 2</i>	<i>Procedure 3</i>
Attachment	-	-	x
Guide or Pulley	-	x	-
Buckle-loop	-	x	x
Adjusting device	X	-	x
Parts sewn to the strap	-	-	x
Flexible shoulder adjusting device for height	X	-	-

"

Paragraph 8.1.1., amend to read:

"8.1.1. With the exception of...

...

Class I, or A ... of this Regulation.

Only vehicles belonging to category M₂ or M₃ may be fitted with restraint systems comprising a flexible shoulder adjustment device for height (paragraph 2.14.7)."

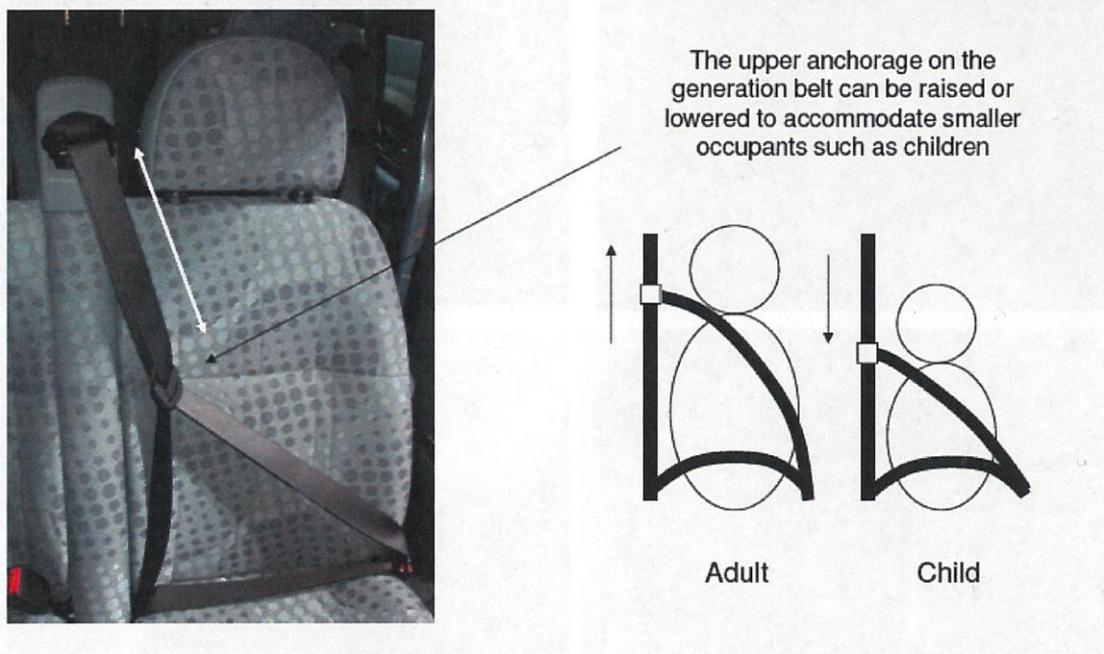
Annex 1B, item 1, amend to read:

"1. Restraint system (with)/three-point belt/lap belt/special type belt/fitted (with) energy absorber/retractor/device for height adjustment of the upper pillar loop/**flexible shoulder adjustment device for height**³"

III. Justification

1. In the approval certificate of UN Regulation No. 16, where strikethrough options are required, only one system for "belt adjustment for height" can be mentioned, namely the "belt adjustment for height of the upper-pillar loop".
2. The situation explained above has caused confusion so far: a belt/restraint system that makes use of **a flexible shoulder adjustment device for height** (sometimes called **generation belt**, see the explaining figure on next page), does not make use of the upper-pillar loop for adjustment and therefore cannot be mentioned on the Communication form.
3. Accordingly, authorities (responsible for the installation approval of a belt in a vehicle (Communication sheet 1A)) did not always react, by means of the UN Regulation No. 16 (Annex 1B) to a restraint system concerning a belt system with a flexible shoulder adjustment device for height! Note that this kind of belt system could have a location of the effective upper anchorage lower than the limit of 450 mm above the R-point, only in the case of installation on M₂ and M₃ vehicles (this is stated up to now only in UN Regulation No. 14 because the focus was merely on adjustable upper-pillar loops)!
4. This proposal introduces a definition for flexible shoulder adjustment device for height. This definition has been further extended to make sure that the adjusting forces may NOT be derived from the lap belt part (examples of options which should not be covered in our definition, because they enlarge the danger of submarining, are given next page). The definition is worded in the positive way, so what is preferred.
5. Moreover, the complexity and sensibility of the flexible adjustment device for height (generation belts) does not justify a dynamic test according to UN Regulation No. 16, which provides a generic stiff seat. A test proposal for a restraint system (in combination with a real vehicle seat) is shown below:

³ Indicate which type.



Source: this figure was in doc. GRSP-50-23 tabled by the expert from Germany.

Examples of options which should not be used because they force the lap belt upward and increase the risk of submarining. The pictures on the sides concern more "add on" parts and will possibly not be submitted for type approval, the picture in the middle concerns a safety-belt system, but the definition in the UN Regulations is such that this type is outside of the scope.

