

Proposal for supplement 2 to the original version of Regulation No. 173 and to the 01 series of amendments to UN Regulation No. 173 (Installation of safety belts, restraint systems, child restraint systems, ISOFIX child restraint systems and i-Size child restraint systems)

The text reproduced below was prepared by the expert from Germany on behalf of the TF GRSP AVRS, to enable the application of the regulation to vehicles equipped with an ADS. The modifications to the existing text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

I. Proposal

0. Introduction

Paragraph 0.1., amend to read:

“0.1. For original version of Regulation 173

0.1.1. During the seventy-third session of the Working Party on Passive Safety (GRSP) held in May 2023, it was decided to split UN Regulation No. 16 into three UN Regulations:

- (a)** safety-belts and restraint systems (components);
- (b)** safety-belts and child restraint systems installation (vehicle);
- (c)** safety-belt reminders (vehicle).

This UN Regulation consists of the specific requirements and approval process of a vehicle type with regard to safety-belts and child restraint systems installation. The requirements are derived from UN Regulation No. 16 as amended by the 09 series of amendments. From a technical point of view, the requirements are identical. Therefore, it is important to define clear transitional provisions in the updated UN Regulation No. 16 as amended by the 10 series of amendments, explaining the equivalence between approvals issued according to this Regulation and UN Regulation No. 16 as amended by the 09 series of amendments.”

Insert a new paragraph 0.2., to read:

“0.2. For the 01 series of amendments:

0.2.1. The strap’s paths between the effective safety-belt anchorage and the buckle are normally straight like the test bench specified in UN Regulation No. 129. However, the strap’s paths between the effective belt-anchorage and the buckle of some vehicles in the market are not straight and are curved along the cushion.

0.2.2. When the strap’s paths between the effective belt anchorage and the buckle are not straight, the occupants can be thrown forward significantly in a frontal impact accident. If an occupant is seated in the booster seat attached by ISOFIX, there are cases where the seatbelt will slip up to the neck and submarining may occur. This would increase the risk of injury to the neck and abdomen of a child occupant. In addition, the chest injury of the dummy increases.

0.2.3. These amendments mitigate the negative effects on the safety of the occupants by limiting the slack of the buckle belt.”

Insert a new paragraph 0.3., to read:

“0.3. For supplement 1 to the 01 series of amendments:

- 0.3.1. **Removal of the wording “specific vehicle” since the type of child restraint is defined in the respective regulation. With the present wording a conflict exists.**
- 0.3.2. **Addition of a reference to UN Regulation No. 129 since the details of the ISOFIX anchors are also given in UN Regulation No. 129.**
- 0.3.3. **Removal of incorrect wording in paragraph 4.7.”**

Insert a new paragraph 0.4., to read:

- “0.4. For supplement 2 the original version of this Regulation and supplement 2 to the 01 series of amendments:**
- 0.4.1. **The Regulation is amended to account for vehicles of category X.**
- 0.4.2. **The Regulation was originally drafted for vehicles with driver and manual driving controls and it is the intention of this new amendment to keep the spirit of the regulation and to extend its application to vehicles without driver and manual driving controls. In the absence of driver/manual driving controls, provisions related to them shall not be taken into account if not already covered by this amendment.**
- 0.4.3. **In case of vehicles with an ADS where those vehicles are also equipped with a manual driving mode operating at a speed of more than 6 km/h it is expected that in the manual driving mode the technical requirements can be applied as they would for a conventional vehicle. In a mode where an ADS feature is active the relevant ADS requirements have to be fulfilled.”**

Paragraph 1., amend to read:

- “1. Scope

This Regulation applies to:

- (a) ~~1-1~~** Vehicles of categories M, N, O, L₂, L₄, L₅, L₆, L₇ and T¹, with regard to the installation of safety-belts and restraint systems which are intended for separate use, i.e. as individual fittings, by persons of adult build occupying forward-facing, rearward-facing and side-facing seats;
- (b) ~~1-2~~** Vehicles of categories M₁ and N₁¹ with regard to the installation of child restraint systems and ISOFIX child restraint systems.
- (c) ~~1-3~~** At the request of the manufacturer, it also applies to the installation of child restraint systems and ISOFIX child restraint systems designated for installation in vehicles of categories M₂ and M₃.¹
- (d) ~~1-4~~** At the request of the manufacturer, it also applies to installing i-Size child restraint systems, in case i-Size seating positions are defined by the vehicle manufacturer.

This Regulation does not apply to vehicles of category Y.”

Paragraph 1, footnote 1, amend to read:

- “¹ As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.78, para. 2 - <https://unece.org/transport/vehicle-regulations/wp29/resolutions>”

Paragraph 2.16.1., amend to read:

- “2.16.1. “A front passenger seat” means any seat where the “foremost H-point” of the seat in question is in or in front of the vertical transverse plane through the driver's R-point. **For vehicles of category X, the “R” point of the most forward passenger seat shall be taken instead of the R-point of the driver's seat.**”

[Insert new paragraph 5.5., to read:

“5.5. In case of vehicles where an ADS¹ feature is foreseen, a seating position with the steering control placed in front, may be designated as suitable for the installation of a Child Restraint System, provided all requirements for a passenger seating position as defined in paragraphs 5.1.9.2. to 5.1.9.4. are fulfilled.”]

Annex 9, paragraph 3., amend to read:

“3. In the case of safety-belts fitted with a type 4N retractor, it shall be indicated in the installation instructions and on any packaging that this belt is not suitable for installation in motor vehicles used for the carriage of passengers having not more than nine seats, ~~including that of the driver.~~”

Annex 5, amend to read:

Minimum requirements for safety-belts and Retractors						
Vehicle category	Forward facing seating positions				Rearward-facing seating positions	Side-facing seating position
	Outboard seating positions		Centre seating position			
	Front	Other than front	Front	Other than front		
M ₁	Ar4m	Ar4m	Ar4m	Ar4m	B, Br3, Br4m	-
M ₂ < 3.5 t	Ar4m, Ar4Nm	Ar4m, Ar4Nm	Ar4m, Ar4Nm	Ar4m, Ar4Nm	Br3, Br4m, Br4Nm	-
M ₂ > 3.5 t	Br3, Br4m, Br4Nm, or Ar4m or Ar4Nm ●	Br3, Br4m, Br4Nm, or Ar4m or Ar4Nm ●	Br3, Br4m, Br4Nm or Ar4m or Ar4Nm ●	Br3, Br4m, Br4Nm or Ar4m or Ar4Nm ●	Br3, Br4m, Br4Nm	-
M ₃	Br3, Br4m, Br4Nm, or Ar4m or Ar4Nm ● See para. 5.1.7. for conditions when a lap belt is permitted	Br3, Br4m, Br4Nm, or Ar4m or Ar4Nm ● See para. 5.1.7. for conditions when a lap belt is permitted	Br3, Br4m, Br4Nm or Ar4m or Ar4Nm ● See para. 5.1.7. for conditions when a lap belt is permitted	Br3, Br4m, Br4Nm or Ar4m or Ar4Nm ● See para. 5.1.7. for conditions when a lap belt is permitted	Br3, Br4m, Br4Nm	B, Br3, Br4m, Br4Nm
N ₁	Ar4m, Ar4Nm	Ar4m, Ar4Nm, Br4m, Br4Nm Ø Para. 5.1.2.1. lap belt permitted if seat is inboard of a passageway	B, Br3, Br4m, Br4Nm or A, Ar4m, Ar4Nm* Para. 5.1.6. lap belt permitted if the windscreen is not in the reference zone	B, Br3, Br4m, Br4Nm	B, Br3, Br4m, Br4Nm	-
N ₂	Br3, Br4m, Br4Nm or Ar4m, Ar4Nm* Para. 5.1.6. lap belt permitted if the windscreen ^Z is outside the reference zone and/or for the driver's seat for a seat having a steering control in front	B, Br3, Br4m, Br4Nm	B, Br3, Br4m, Br4Nm, or A, Ar4m, Ar4Nm* Para. 5.1.6. lap belt permitted if the windscreen is not in the reference zone	B, Br3, Br4m, Br4Nm	B, Br3, Br4m, Br4Nm	-
N ₃	Br3, Br4m, Br4Nm or Ar4m, Ar4Nm* Para. 5.1.6. lap belt permitted if the windscreen ^Z is outside the reference zone and/or for the driver's seat for a seat having a steering control in front	B, Br3, Br4m, Br4Nm	B, Br3, Br4m, Br4Nm, or A, Ar4m, Ar4Nm* Para. 5.1.6. lap belt permitted if the windscreen is not in the reference zone	B, Br3, Br4m, Br4Nm	B, Br3, Br4m, Br4Nm	-

A: three-point (lap and diagonal) belt
3: automatically locking retractor
*: Refers to para. 5.1.6. of this Regulation

B: 2-point (lap) belt
4: emergency locking retractor
Ø: Refers to para. 5.1.2.1. of this Regulation

r: retractor
N: higher response threshold
●: refers to para. 5.1.7. of this Regulation

m: emergency locking retractor with multiple sensitivity (see paras. 2.12.3. and 2.12.5. of this Regulation)

Minimum requirements for safety-belts and Retractors

Z: For the purpose of this regulation: In case of vehicles of category X, the front exterior forward facing glazing or surface is deemed to be a windscreen

Note a: In all cases all S-type belts may be fitted in place of all possible A or B type belts, provided their anchorages comply with UN Regulation No. 14. Where a harness belt has been approved as a S-type belt according to this Regulation, using the lap belt strap, the shoulder belt straps and possibly one or more retractors, one or two additional crotch straps including their attachments for their anchorages may be provided by the manufacturer/applicant. These additional anchorages need not meet the requirements of UN Regulation No. 14

Note b: For M₂ and M₃ vehicles of all classes, forward facing Seats facing Built in Child Restraint Systems shall be equipped with at least Ar seat belts. "

II. Justification

See paragraph 0.3. in the proposal.
