R55-13-xx

**Item 25: Minimum articulation angles of couplings installed on the vehicles**

***Proposal with regard to the drawbar coupling*** *(in red the main changes after the 12th meeting in Paris)****:***

*Annex 7*

*Insert a new paragraph 1.3.5, to read:*

**1.3.5. When attached to the vehicle, the horizontal rotation of the drawbar eye elongated with an imaginary endless axis shall be at least ~~[~~ 90° ~~]~~ to each side of the centre line of the drawbar coupling and mounting.**

**Simultaneously, there shall be an angle of free vertical movement 20° above and below the horizontal.**

**In the case of a low underslung coupling (e.g. to enable a short distance between the towing and the towed vehicle) the angle of free vertical movement may be reduced to 6° above and below the horizontal.**

*Paragraphs 1.3.5. to 1.3.8. (former) renumber as paragraphs 1.3.6. to 1.3.9. respectively.*

***~~Proposal with regard to the fifth wheel coupling:~~***

*~~Annex 7~~*

*~~Insert a new paragraph 1.5.5, to read:~~*

**~~1.5.5. Minimum articulation of the fifth wheel coupling with the coupling pin engaged, with the fifth wheel coupling being attached to a vehicle, the coupling shall permit, simultaneously, the following minimum values of articulation of the coupling pin:~~**

**~~1.5.5.1. ±90° about the vertical axis;~~**

**~~1.5.5.2. 6 3,5° towards the front and 7 4,5° towards the rear, about the horizontal axis transverse to the direction of travel.~~**

Justification;

- Currently there are in regulation R55 no requirements with regard to the minimum articulation of couplings installed on the vehicles. It is possible that couplings get damaged when a combination takes a (too) narrow curve. To prevent extreme positions of the couplings on the vehicle some minimum requirements are necessary.

- The proposed minimum articulation angles (90°) for the installed drawbar coupling is based on ISO 11407 par. 2.6 second section. The proposed minimum inclination angles for the installed drawbar coupling are based on R55 Annex 5 par. 3.4 (not fitted couplings) and the values for the underslung coupling are based on ISO 11407 par. 2.6 first section.

R55 Annex 7 par. 1.3.4. mentions the minimum angles for coupling up and uncoupling. These angles are smaller than the proposed values. The proposed values only take into account the towing vehicle and don’t take into account the form and dimensions of the trailer’s drawbar. Therefor the proposed larger angles are justified.

~~- The minimum inclination (3,5~~**~~°~~** ~~/ 4,5°) and the minimum articulation (±90°)~~~~of the fifth wheel coupling installed on the vehicle are based on ISO 1726-2 par. 3.1. ISO 1726-2 gives the minimum values for low-coupling tractors and high-volume semi-trailers.
ISO 1726-1 gives the values 6° and 7° for “normal” tractor and “normal” semi-trailers. Because it is not simple to differentiate between a “normal tractor” and a “low coupling tractor” only the minimum values 3,5° and 4,5° are mentioned in the proposal.~~

- The tables in the document “overview angles of rotation” (doc. R55-13-10) show the values for the angles mentioned in some regulations, ISO-standards and the old Dutch requirements as well as the proposed values. The tables are the base for the requirements in this proposal.