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**Economic Commission for Europe**

Inland Transport Committee

**World Forum for Harmonization of Vehicle Regulations****Working Party on Brakes and Running Gear****Seventy-eighth session**

Geneva, 16–19 September 2014

Item 4 of the provisional agenda

**Regulation No. 55 (Mechanical couplings)****Proposal for Supplement 4 to the 01 series of amendments to  
Regulation No. 55 (Mechanical couplings)****Submitted by the Chair of the informal group on Regulation No. 55\***

The text reproduced below was prepared by the informal group of experts on Regulation No. 55, introducing amendments on requirements on movable couplings, on increased range of application of remote controls to couplings (e.g. C50-X and G50-X), on possible increase of values in standard coupling characteristics and to include further requirements on the mounting of couplings. The modifications to the current text of the Regulation are marked in bold for new or strikethrough for deleted characters.

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\* 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

Paragraph 2.6.3., amend to read:

<b>"2.6.3. Class C</b>	<b>Clevis type drawbar coupling</b>
	Drawbar couplings with a 50 mm diameter pin, with a jaw as well as an automatic closing and locking pin on the towing vehicle for connecting to the trailer by means of a drawbar eye - see Annex 5, paragraph 3.:"

Paragraph 2.6.3.1., amend to read:

"2.6.3.1. Class C50-1 to C50-7	Standard 50 mm pin diameter <b>clevis type</b> drawbar couplings."
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Paragraph 2.6.3.2., amend to read

"2.6.3.2. Class C50-X	Non-standard 50 mm pin diameter <b>clevis type</b> drawbar couplings."
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Annex 5,

Paragraphs 1.4. to 1.7. (*former*), to be renumbered 1.5. to 1.8.

Insert new paragraph 1.4., to read:

<b>"1.4. Movable coupling devices (couplings that can be moved without separation)</b>
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**A movable coupling device shall be designed for positive mechanical engagements in service position. In case of manual movement the actuating force shall not supersede 20 daN. The movement shall be limited by mechanical end stops"**

Delete paragraph 3.7.5.

Add new paragraph 3.6., to read:

<b>"3.6. Opening devices"</b>
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Renumber former paragraph 3.6. as 3.6.1.

Add new paragraph 3.6.2., to read:

<b>"3.6.2. Remote Control For installations with remote control Annex 5 §12.3.6. applies. "</b>
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Paragraph 12.1., amend to read:

"12.1. Devices for remote indication and remote control are permitted only on automatic <b>drawbar couplings and automatic fifth wheel couplings</b> <del>coupling devices of Classes C50 X and G50 X.</del> "
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Headline of Table 3, amend to read:

**"Minimum** characteristic values for standard flange type ball couplings.

Legend of Table 3, delete the word "maximum".

Headline of Table 5, amend to read:

**"Minimum** characteristic values for standard drawbar couplings"

*Legend of Table 5*, delete the word "maximum".

*Headline of Table 7*, amend to read:

**"Minimum** characteristic values for standard drawbar eyes"

*Headline of Table 9*, amend to read

**"Minimum** characteristic values for Class L toroidal drawbar eyes"

*Headline of Table 13*, amend to read

**"Minimum** characteristic values for Class K hook type couplings"

*Annex 6*,

*Paragraph 3.5.3.*, for "0.25" read "0.6".

*Paragraph 3.5.3.*, amend to read:

**"...closure to open and it shall not cause any damage. The closure/locking device shall be functional after the test."**

## II. Justification

1. As class C is defined as a clevis type coupling, class T is no longer necessarily constructed as clevis type. Most of approved class T couplings have neither a coupling jaw nor a coupling pin, which needs clarification.
2. In addition, this kind of coupling is constructed and tested as having less play than other couplings.
3. The coupling type class T is for couplings where the trailer and the truck are not uncoupled in their daily business, so a device to guide a drawbar under the pin position in order to perform a fast and safe coupling procedure is dispensable. The connection should be done at the manufacturer or in workshops.
4. Today an increasing number of coupling types (especially ball-couplings, which are movable, retractable or bendable and so on) are developed with esthetic considerations. The minimum requirement to the mechanism of this kind of ball coupling devices shall be stated in order to avoid accidents when a trailer is coupled.
5. Remote indications help the driver to assure safe coupling procedures. It is much safer and innovative to use couplings with remote control and remote indication, in particular, if the remote indication is integrated in the dashboard. In the present Regulation, remote control safety features and remote indications are only permitted for one unique class of couplings i.e. C50-X. It is not permitted for coupling of classes C50-1 until C50-7, G50-X, S (automatic pin couplings with bolts different from 50mm) as well as the common automatic fifth wheel coupling with 90 mm pin diameter. This proposal intends to correct this situation.
6. Annex 5, paragraph 3.7.5. is currently ambiguous. The content is clarified and moved to in a revised Annex 5, paragraph 3.6.
7. For commercial reasons sometimes couplings are tested and approved against higher characteristic values than detailed in the actual list of values for standardized couplings of the particular class. If every part of a coupling combination fulfils minimum requirement, a safe combination is given. Any device being tested against higher characteristic values still comply with every requirement of the standard device, but with a higher security for the whole coupled combination. It makes no sense, that these couplings lose their description and become class S.

8. The actual static value ( $0.25 \times D$ ) is based on early research with standard drawbar couplings, where the forces in opening direction are caused by friction between the pin and the drawbar eye. In our opinion this reference is not correct. Hook couplings present a different situation.
  9. The drawbar-eye has direct force application on the closure/locking device.
  10. With hook couplings, all experiences show a higher practical force in opening direction caused directly by the drawbar eye (class L) in on-road conditions.
  11. The actualised value is taken from international agricultural regulations with similar coupling and attachment devices.
  12. It is also found in the German national regulation based on research projects taking into account of the national German approvals experience.
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