Transmitted by the experts from ISO

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PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 55 (Mechanical couplings)

Note: The text reproduced below was prepared by the experts from ISO in order to propose the adoption of certain provisions given in ISO 3842:2006 and ISO 12357-2:2007 as a basis for a draft amendment to Regulation No. 55 (Uniform provisions concerning the approval of mechanical coupling components of combinations of vehicles).

A.1. JUSTIFICATION

ISO 3842:2006 "Road vehicles — Fifth wheels — Interchangeability" has been published by ISO on December 2006.
This International Standard has been developed by ISO/TC22/SC15/WG4 "Mechanical couplings" as a complete revision of the previous edition dated 2001 and has introduced the following new provisions:

- interchangeability dimensions for a newly standardized fifth wheel coupling designed to be mounted on the tractor frame without the use of a mounting plate (using appropriate sub-frame elements instead). This so called “light-weight” fifth wheel is considered to be necessary since this application is already on the market and will give benefits in terms of weight savings;
- a new design requirement for the fifth wheel (both standard and light fifth wheel) that has to be provided, on its top surface, with a minimum area for force introduction. Such requirement is considered to be necessary because it gives an appropriate guidance for the trailer plate design.

Therefore ISO/TC22/SC15 and its WG4 would like to submit to GRRF the proposal shown in the following pages for appropriate consideration and possible adoption as an amendment to Regulation No. 55.

B.1. PROPOSAL

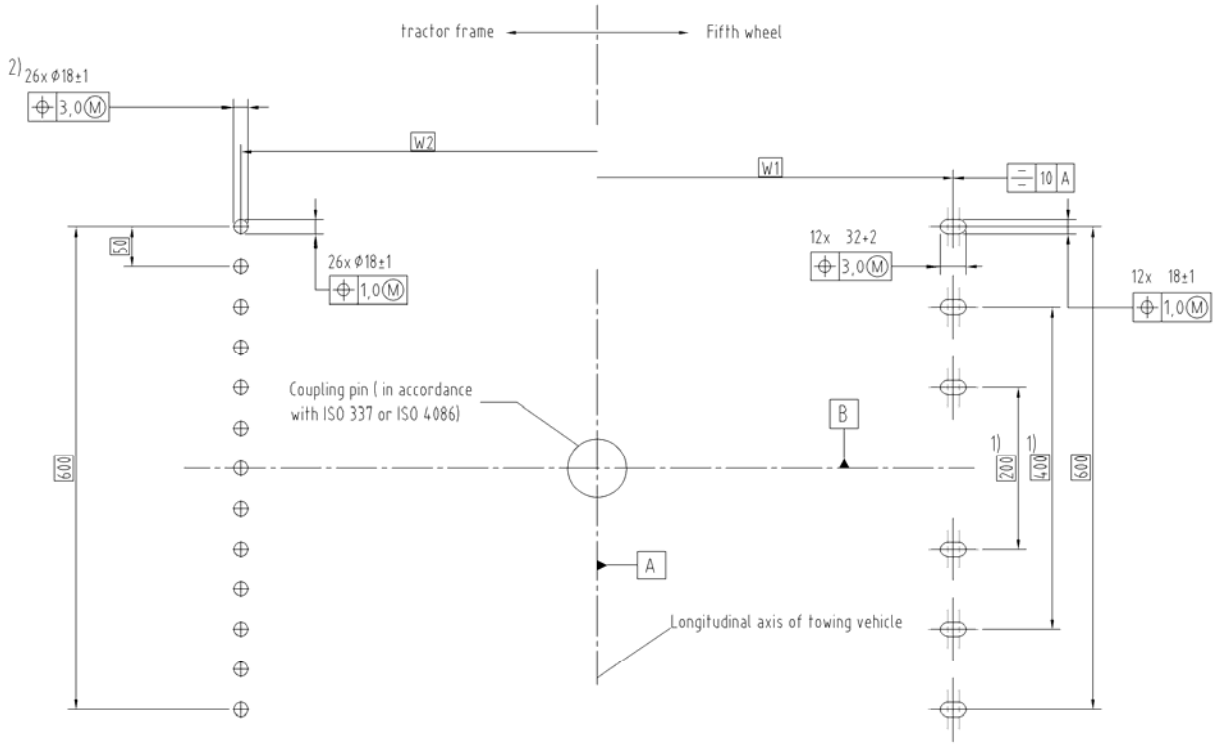
Insert a new paragraph 2.6.7.2 to read:

"2.6.7.2 Class G50-D Standard 50 mm pin diameter direct-mounted fifth wheel couplings."

Paragraph 2.6.7.2. (former), renumber as paragraph 2.6.7.3.

Annex 5

Paragraph 7.2, after figure 16a, insert a new figure 16b to read (including notes 1 and 2):



1 Alternative dimensions (spacing 100 mm or multiples thereof) may be used.

2 A minimum of 13 holes per side are required. A higher number of holes is recommended to give possibility to move the direct-mounted fifth wheel on the frame. The combination of elongated holes both on the fifth wheel and on the frame is not covered by this Standard.

Figure 16b — Mounting holes positions and tolerances on the tractor subframe and on the direct-mounted fifth wheel (For dimensions W1 and W2, see Table 12)

Paragraph 7.2., table 11, amend to read (and adding new tables 11a and 11b):

"Table 11 — Height classes of standard fifth wheel couplings

Dimensions in millimetres

FW	class 1	class 2	class 3	class 4	class 5	class 6
H ± 5 mm	150	170	185	205	225	250

Table 11a — Height classes of standard direct-mounted fifth wheel couplings

Dimensions in millimetres

FW	class 1	class 2	class 3	class 4	class 5	class 6
H ± 5 mm	150	160	175	190	225	250

Table 11b — Classes of transversal width for direct-mounted fifth wheels

Dimensions in millimetres	Class A	Class B
W1 (direct-mounted fifth wheel)	870	950
W2 (tractor subframe)	860 - 880	940 - 960

"

Insert a new paragraph 7.8., to read:

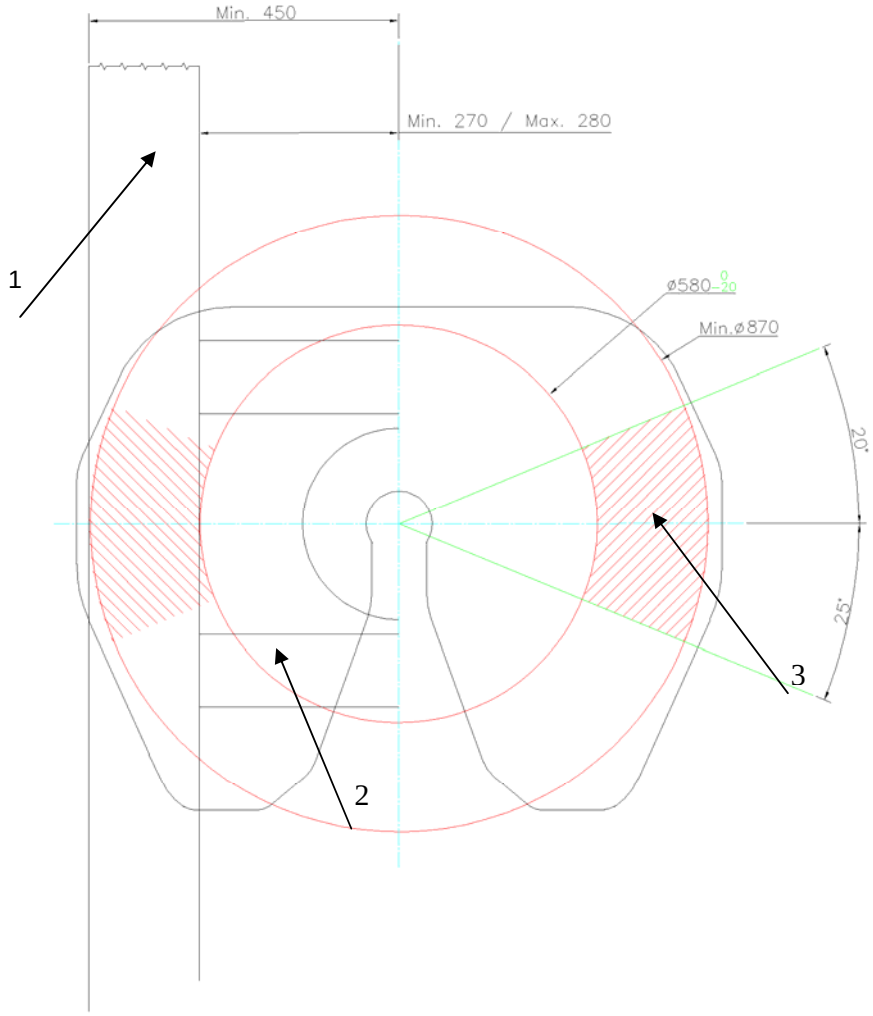
"7.8 Minimum force introduction area
A minimum force introduction area at the top of the fifth wheel plate is defined as shown in Figure 17 in order to show the area in which the trailer plate forces shall be introduced (grease grooves on the surface of the fifth wheel top plate are allowed in this area)."

Paragraphs 7.8. to 7.9.3. (former), renumber as paragraphs 7.9. to 7.10.3.

Paragraph 7.9.4. (former), renumber as paragraph 7.10.4. and amend the reference to paragraph 7.8. to read paragraph 7.9.

Annex 5, Paragraph 7, insert a new figure 17 to read:

"



Key
1 Longitudinal support of the trailer chassis
2 Cross bar of the trailer chassis
3 Area of force introduction

Figure 17 — Minimum force introduction area"

Figures 17 to 19 (former), renumber as figures 18 to 20.

A.2. JUSTIFICATION

ISO 12357-2:2007 "Commercial road vehicles — Drawbar couplings and eyes for rigid drawbars — Part 2: Strength tests for special applications" has been published by ISO on April 2007.
This International Standard has been developed by ISO/TC22/SC15/WG4 "Mechanical couplings" as a second part of ISO 12357:1999 specific for special applications and has introduced the following new provisions:

- new formulae which are applicable to vehicle combinations with rigid drawbar trailers other than centre-axle trailers (i.e. with S > 1000 kg). The new formulae are considered to be necessary since such applications are already used in some European Countries;
- new formulae which are applicable to vehicle combinations with centre-axle trailers used for the transport of vehicles. The new formulae are considered to be necessary because in this way it would be possible to replace the existing provisions allowing for a reduced test load for this specific application with the provisions given in the Standard which are reducing the demand of Dc-value and V-value.

Therefore ISO/TC22/SC15 and its WG4 would like to submit to GRRF the proposal shown in this and in the following pages for appropriate consideration and possible adoption as an amendment to Regulation No. 55.

B.2. PROPOSAL

Paragraph 2.6.13., amend to read:

"2.6.13. Class T — Non-standard, non-automatic dedicated drawbar type couplings which are able to be separated only by the use of tools and are typically used for vehicle transport combinations. They shall …"

Paragraph 2.11.1, amend 3rd sub-paragraph to read:

"For mechanical coupling devices and components for centre-axle trailers as defined in paragraph 2.13. and for rigid drawbar trailers as defined in paragraph 2.14., the value is:

Paragraph 2.11.1, add at the end a new sub-paragraph to read:

"For mechanical coupling devices and components for centre-axle trailers, as defined in paragraph 2.13., only for specific use in vehicle transport combinations, Class T couplings included, the value is:

$$D_c = 0{,}8 \cdot g \cdot \frac{T \cdot C}{T + C}$$

"

Paragraph 2.11.4, add at the end the new sub-paragraphs to read:

"For mechanical coupling devices and components for rigid drawbar trailers as defined in paragraph 2.14., the value is

$$V = a \cdot \frac{x^2}{L^2} \cdot \left(0{,}95 \cdot C + S/1000\right)$$

For mechanical coupling devices and components for centre-axle trailers, as defined in paragraph 2.13., only for specific use in vehicle transport combinations, Class T couplings included, the value is

$$V = 0{,}8 \cdot a \cdot \frac{x^2}{L^2} \cdot C$$

"

Insert a new paragraph 2.14., to read:

"2.1.4. "rigid drawbar trailer" means a towed vehicle equipped with a towing device which cannot move vertically (in relation to the trailer), and in which the axle(s) is(are) positioned less close to the centre of gravity of the vehicle (when uniformly loaded) such that a vertical static load S exceeding 10% of the load corresponding to the maximum design total mass of the trailer and/or vertical static load S greater than 1000 kg and up to 2000 kg is transmitted to the towing vehicle."

Paragraphs 2.14. and 2.15. (former), renumber as paragraphs 2.15. and 2.16.

Annex 5, paragraph 11.1., amend to read:

"11.1. Class T dedicated drawbar type couplings are intended for use on specific vehicle combinations, for example, vehicle transport combinations. These vehicles have ……"

Annex 6, paragraph 3.3.3.2., amend the title to read:

"3.3.3.2. Centre axle trailer masses exceeding 3.5 tonnes and rigid drawbar trailers:"

Annex 6, paragraph 3.3.3.2., table 14, delete the note after the table.

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