Report from the fifth meeting of the Informal Working group concerning regulation 55 under UNECE GRRF

2014-Jun-03-04

# Welcome

The workgroup chairman Jürgen Westphäling welcomed all experts to the meeting venue at Hotel Kolegiacki in Poznan. The chair also thanked the representatives from the Company Steelpress for all the efforts made to arrange tha meeting in Poznan.

# Call around the table

There were fifteen experts that attended the meeting. Apologizes were received from Pierre Teyssier, Mr. Renato Borghi, Mr. Philippe Jaumouille and Mr. Werner Condrads.

# Report on the subgroup on Agriculture coupling equipment

None of the experts from the taskforce on agricultural couplings was able to attend this meeting. Thus the chair gave some general highlight of the proposal. It was noted that trailer manufacturers are taking part in the work. Krone and Fliegl are in the task force. The concept of the proposal is to integrate the agricultural applications into the standard ECE R55. There will be some definitions added. Some general requirements will be added in Annex 5 and Annex 6. Then the major body will be in two new Annexes, possibly annex 9 and 10.

The chair urged everyone to study the proposal and comments. In particular the integrations may cause unwanted interactions. Some issues are not yet settled. One such is the concept of static test only for coupling equipment intended for vehicles with a top speed of 40 km/h or less.

# Report from the GRRF session 76

The working document GRRF/2014/14 was discussed in light of the official report from the 76th session of the GRRF. Due to poor communication between the secretary and the Chair there were contradictory messages to the GRRF from the working group concerning Annex 5 §3.7.5. At this working group meeting it was discussed and agreed to make changes to the proposal as follows:

*Annex 5 §3.7.5. is deleted.*

*Annex 5 §3.6. is changed to read*

3.6. **Opening devices**

**3.6.1. Hand levers**

Hand levers shall … (the text of current §3.6)

**3.6.2. Remote Control**

**For installations with remote control Annex 5 §12.3.6. applies.**

The parts of GRRF/2014/14 that proposes to change the references to ISO 7641:2012 is withdraw for the time being as calculation based procedures are under discussion under other items on the agenda for the working group.

# Walk through of the Actions in the “resolutions and actions list”

*Most action items in the report have been addressed and some was addressed through the items in the agenda point 5.*

# Review of the list of items

*Item 2* (Auxiliary usage Class A) *(*R55\_03\_09, R55\_03\_10, R55\_03\_11, R55\_04\_05, R55\_04\_06, R55\_04\_07, R55\_05\_17, R55\_06\_02, R55\_07\_12*)*

AL-KO had in communication prior to the meeting said that they apply the Carlos BC test scheme to accommodate the loading from auxiliary usage, e.g. bicycle carriers. Thule reported that they apply the same procedure. This is not a requirement in the regulation. I might be considered. Some OEM require in their internal standards that Carlos BC is applied. Some manufacturers of appliances aimed at auxiliary usage of class A couplings arrange special fixation to ease off stresses at the neck just under the coupling ball. RDW noted that not accidents related to auxiliary usage of the Coupling Type A have been reported. In spite of this it was noted that the usage of the class A coupling is in many countries to a large fraction (+65%) auxiliary usage.

The chair reported that Daimler is carrying out some extensive work on this subject. The expectation is that some of that work will result in a DIN standard. It was agreed to wait for some time what comes out of this work. The chair will report to the next meeting.

*Item 4* (Approval of Class L drawbar eye) *(*R55\_06\_16, R55\_07\_21*)*

Pommier had prepared a proposal documented in the document R55\_07\_21. This involves assigning two sets of characteristic values for a class L drawbar eye. One set of values is defined through test carried out with a hook type coupling of class K. Another set of values is defined through test carried out with a clevis type coupling having a cylindrical pin. Both sets of characteristic values shall be shown on the type plate of the drawbar eye. This proposal was well received and the delegates were assigned the task to check for any national obstacles against agreement on this proposal. Decision is to be taken at the next meeting.

*Item 5* (Making the Class S stricter) *(*R55\_04\_02, R55\_04\_09, R55\_05\_08, R55\_06\_05, R55\_06\_17, R55\_07\_08*)*

With respect to the usage of class S it was last time agreed to introduce a new class W, the definition of which was then also agreed. RDW had since raised concerns about the usage of class S. A long discussion resulted in a couple of agreements.

* The delegates shall try to investigate what kind of couplings that are certified to class S.
* The delegates shall try to identify changes to existing classes that may diminish the number of couplings being certified as class S.
* The delegates shall identify if there are any new classes to be introduced, based on what couplings are certified to class S
* The class S shall be more strictly defined in order for all contracting parties to be able to know to what requirements couplings in class S are certified. This shall be done without being design restrictive. Special considerations may be put to the handling of new technology.

*Item 7* (Secondary coupling)*(* R55\_07\_20*)*

UTAC had prepared a proposal documented in the document R55\_07\_20. This involves adding a new paragraph to detail the requirements on fixation points for secondary couplings of light trailers. The proposal was well received. It was left to the delegates to consider this proposal until next meeting when the decision will be taken.

Item12 (Clearance around couplings) *(* *)*

Several attempts have been made to agree on a better sketch on clearances. At the last meeting a deadline for new proposal was set to this meeting. No new proposal was received. Hence the Item was dropped.

*Item 13* (Lateral strength of drawbars) (R55\_04\_11; R55\_05\_03, R55\_06\_07, R55\_06\_08, R55\_06\_1**8,** R55\_07\_01, R55\_07\_04,R55\_07\_05, R55\_07\_15)

This Item resulted in a lot of discussion and no agreement was reached. JOST reported that with the load factor 0.95 (Tandem Axles) they calculate high stresses in the drawbar eye. On the other hand VBG reported that they had using physical tests recertified all their drawbars using current requirements in ECE R55. A long discussion was about calculation procedures being appropriate or not. The chair brought the discussion back to the original issue of having one characteristic value for lateral performance on the type plate. One proposal is to have a Mv value which could then be used to calculate allowable Av value depending on the number of axles according to document R55\_07\_01. Another proposal for the delegates to consider is to define different classes of drawbars, e.g. class E-1 (single axle), class E-2 (tandem axle) and possibly class E-3 (tridem axle). These two options will be considered at the next meeting.

*Item 14* (2nd stage built) *(*R55\_06\_02*)*

This Item was not discussed at this meeting.

*Item 20* (Heavy transports) *(*R55\_02­­\_13, R55\_04­­\_08, R55\_04­­\_12, R55\_05\_01, R55\_05\_06, R55\_05\_20, R55\_05\_21, R55\_05\_22, R55\_07\_18)

Orlandi had put some effort in to evaluate the speed reduction formulas proposed at earlier meetings. As a conclusion from that Orlandi proposed a procedure with fixed reduced speeds. See R55\_07\_18. Considering the German TA31 where no speed limitations are applied the chair noted that those rules were set when the propulsion power was much less that we find today. JOST had been in contact with Daimler that confirmed that they had some engineers specifically allocated to the task of approving heavy transports. However Daimler did not give out any information about their procedures to do so. VBG had found the same with Volvo and Scania, even though the formula that they have presented before has an origin from the Volvo sphere. The chair found the foundation for a proposal on this subject is still too weak. There are some measurement activities going on right now. The experts are requested to wait for those results.

*Item 21* (Limiting cases for the usage of certified characteristic values) *(*R55\_04­­\_11, R55\_05\_05, R55\_06\_09, R55\_07\_06, R55\_07\_14*)*

TÜV-Nord had prior to the meeting communicated some minor remarks but was in general supporting the concept of the proposal. One of the remarks was on the specification of masses being a bit complex. This is however in accordance with what has been in use in Australia for a long time and recently also accepted in the ISO standard ISO18868. Also the experts present at the meeting were supporting the concept. Some minor comments were made. JOST wanted to have the V-value calculation for dollies more clearly spelt out rather than expressed compact mathematical formalism. The Swedish Transport Agency pointed out that a definition of a dolly need to be included. BPW had a question on suspensions equivalent to air suspension when calculating V-value requirements. The answer was that the factor a= 1.8 shall be used for suspension proven equivalent to air-suspension. The criterion of equivalence presented in regulation 1230/2012/EC is accepted. JOST pointed out that it would be desirable to some way to distinguish between certified performance values and calculated requirement values.

A general summary of the concept of the proposal is:

* The characteristic performance values of coupling equipment are certified using the procedures of Annex 5 and Annex 6.
* These certified characteristic performance values shall only be used together with required performance values calculated according to formulas and procedures laid out in the new “Annex 8”
* In the new annex special applications can be regulated such that the coupling equipment is not overstressed in the applications. This makes it possible to handle not only two-vehicle-combinations but multi-vehicle-combinations (including dolly applications), heavy transports, trade-off, rigid drawbar trailers at 4000 kg support load.

*Item 22* (Trade-off V- and Dc-values) (R55\_04\_03, R55\_05\_04, R55\_06\_06, R55\_07\_06, R55\_07\_13)

A simplified sketch to handle the Trade-off between V-value and Dc value for drawbar couplings was communicated through document R55\_07\_13. The sketch was agreed. A comment was given that more text on the usage could be added.

*Item 25* (Articulation angles as installed) (R55\_02\_05, R55\_05\_13, R55\_07\_10)

A proposal for requirements for articulation angles as installed was presented by RDW. The proposal R55\_07\_10 was well received. The delegates shall consider any national obstacles until the next meeting.

*Item 26* (Information on fixation points) *(*R55\_05\_12, R55\_06\_13, R55\_07\_16, R55\_07\_17*)*

Requirements on the detailed information to be specified by the manufacturer have been proposed by RDW in documents R55\_07\_16 and R55\_07\_17. The proposal was agreed.

*Item 29* (Drawbar a separate technical unit) *(*R55\_04\_04, R55\_05\_02,*)*

At the 6th meeting WAP made a verbal proposal saying that a drawbar is always a drawbar. With that proposal we are back to the central issue being when to allow calculation based certification. VBG proposed a strict process on this applying a validation procedure according to 2007/46/EC Annex XVI, document R55\_07\_07. This was not welcomed by everyone. Then RDW proposed to make a new try to get a more strict definition guided by a basic principle “we shall never a separation of trailer from the towing vehicle”. Orlandi and others found this worthwhile to try. It was agreed to come back to this issue at the next meeting.

*Item 30* (Simple designs) *(*R55\_02­­\_09, R55\_03\_06, R55\_05\_09, R55\_07\_07*)*

This Item was discussed already under the item 29. The reason to have a definition of simple design is to have a criterion when to allow calculation based certification. There were many arguments in favor and against. A FEM screening can bring the number of tests per project down to 1.3 to 1.7 tests on average per project. This may be taken as an argument that there are openings in the regulation that enables manufacturers to bring the testing down to a minimum. Our host for this meeting, Steelpress, has communicated problems to be allowed to apply the screening opportunities given in ECE R55. On that specific item it was agreed that Steelpress shall bring some concrete examples for review by the experts of this working group. Apart from this remaining discussion it was agreed to drop Item 30.

**Approach towards the 77th session of the GRRF**

The working document GRRF/2014/14 is updated as agreed.

Most agreed items will be compiled into one informal document to be presented at the 77th session as information and a progress report to collect feedback. Than the feedback will be assessed and incorporated as appropriate.

# Any other business

Next meeting will be a one-day meeting to be held in the Netherlands. Venue will be communicated at a later stage. The time for the meeting is 2014 Oct 16 starting at 0900 ending at 1700 hours.

# Close of the meeting

The chairman thanked all participating experts for their contribution and wished them a safe journey home. Welcome back in October of 2014. Likewise the attendees expressed their gratitude for the hospitality by company Steelpress to host the meeting.

# Resolutions and actions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Description | Time | Actor | Closed |
| 1 | Item list in ToR extended with two items.29. Integrated drawbar, 30. Simple drawbar | 2012 Oct 11 | Svensson | Yes |
| 2 | The German TA 31 sent to the secretary | 2012 Oct 11 | Conrad | Yes |
| 3 | TûV-Nord procedure on rigid drawbars sent to the secretary | 2012 Oct 11 | Conrad |  |
| 4 | Invite Lucien Vogel of Lohr to the group | 2012 Oct 11 | Preud´homme | Yes |
| 5 | Invite German trailer manufacturers to the group | 2012 Oct 11 | Westphäling | Yes |
| 6 | Invite other trailer manufacturers through CLCCR | 2012 Oct 11 | Svensson | Yes |
| 7 | Invite representatives from UTAC to the group | 2012 Oct 11 | Preud´homme | Yes |
| 8 | Investigate further experts to the agricultural subgroup | 2012 Oct 11 | All | Yes |
| 9 | Item 6, Collect further information on locking of foldable class A couplings | 2012 Oct 11 | van Ittersum | Yes |
| 10 | Item 7, In principle agreed but formulation shall be reconsidered. | 2012 Oct 11 | Westphäling, Stokreef | Yes |
| 11 | Item 8, Agreed without modifications | 2012 Oct 11 |  | Yes |
| 12 | Item 10, No agreement reached, reclassified as complex.  | 2012 Oct 11 | Decided | Yes |
| 13 | Item 11, Proposal agreed in principle. Mr. Teyssier of Volvo volunteered to reconsider the formulation. Mr. Tagliaferri offered his support. | 2012 Oct 11 | Teyssier, Tagliaferri | YES |
| 14 | Item 12, The drawings proposed needed improvement. The justification is required to be better founded in the statistics. | 2012 Oct 11 | Zander | Yes |
| 15 | Item 17, Agreed | 2012 Oct 11 |  | Yes |
| 16 | Item 18, Proposal was agreed. The formulation does cover fully automatic coupling systems. | 2012 Oct 11 |  | Yes |
| 17 | Item 23, Proposal disagreed and withdrawn | 2012 Oct 11 |  | Yes |
| 18 | Item 22, Proposal supported and Mr. Svensson was assigned the task to elaborate the proposal | 2012 Oct 11 | Svensson | Yes |
| 19 | Item 2, No agreement was reached at this time more information on accident statistics needed | 2012 Oct 11 | Westphäling | Yes |
| 20 | Item 2, AL-KO to send internal procedure to Mr. Westphäling | 2012 Oct 11 | Jaumouille | YES |
| 21 | Item 2, TÜV-Rheinland to send internal procedure to Westphäling | 2012 Oct 11 | ? |  |
| 22 | Item 2, Try to get documentation on the Dutch automobile club procedures and send to Westphäling | 2012 Oct 11 | Stokreef |  |
| 23 | Item 13, Support but further information wanted. Contact Mr. Bonacker for more background. | 2012 Oct 11 | Svensson | Yes |
| 24 | Item 3, Proposal in principle agreed. More information on mechanism required. Westphäling contacts DLG. Svensson contacts Mr. Bonacker. | 2012 Oct 11 | Westphäling,Svensson(Challenge to all experts) | Yes |
| 25 | Item 4, Pommier is invited to outline a new class L2 intended for use with pin type couplings with cylindrical (prismatic) pin. | 2012 Oct 11 | Preud´homme | YES |
| 26 | Items agreed at the 2012 Oct 10-11 will be formalized in a working document for the GRRF session 2013 Feb | 2012 Oct 11 | Westphäling,Svensson | Yes |
| 27 | Next meeting to be held in Garching 2013 Jan 15-16 | 2012 Oct 11 |  | Yes |
| 28 | Italian UNACOMA to prepare a proposal for agricultural couplings | 2013 Jan 16 | Westphäling | Yes |
| 29 | Simple items will go in the current series of amendments. | 2013 Jan 16 | Decided | Yes |
| 30 | No transition period needed for the simple items | 2013 Jan 16 | Decided | Yes |
| 31 | Handle both ball and pin couplings in the context of secondary coupling. New proposal. | 2013 Jan 16 | Westphäling | Yes |
| 32 | Introduce clevis in the definition of Class C clearing out ambiguities. New proposal | 2013 Jan 16 | Westphäling | Yes |
| 33 | Further detail the requirement for remote indication. New proposals. | 2013 Jan 16 | Tagliaferri, Teyssier | YES |
| 34 | Distribute new sketches on free space definition. | 2013 Jan 16 | Westphäling, Alguëra | YES |
| 35 | Comment on the new sketches for free space | 2013 Jan 16 | All | YES |
| 36 | Proposal for item 17 adjusted | 2013 Jan 16 | Decided | Yes |
| 37 | Further elaborate on the trade-off proposal, aiming for a straight line | 2013 Jan 16 | Turlier, Svensson | YES |
| 38 | Send the German documented procedure FS5 to the secretary | 2013 Jan 16 | Westphäling |  |
| 39 | Start outline requirements for auxiliary usage of coupling equipment. | 2013 Jan 16 | van Ittersum | YES |
| 40 | Supply information on force level from coupling brakes. | 2013 Jan 16 | Turlier, van Ittersum, Preud´home, Westphäling, Jaumouille | Yes |
| 41 | Investigate the outcome from the changed rules for drawbar lateral forces in NewZeeland | 2013 Jan 16 | Svensson |  |
| 42 | Coupling in existing classes developed to become fully automatic coupling remain in the original class. | 2013 Jan 16 | Decided | Yes |
| 43 | Outline a new Class W for coupling systems of unique concept. Draw on the Class T when outlining the definition | 2013 Jan 16 | Svensson, Gunneriusson | Yes |
| 44 | Review Annex 7 §1.5.2 | 2013 Jan 16 | Algüera | Yes |
| 45 | Investigate and compile statistics concerning king-pin and supporting structure in semi-trailers. | 2013 Jan 16 | Stokreef, Hansen, Gunneriusson, Bailey,Preud´home, Tagliaferri | YES |
| 46 | Investigate and compile information on limiting articulation angles for coupling equipment as installed on the vehicles | 2013 Jan 16 | Stokreef, Hansen, Gunneriusson, Bailey,Turlier, Erario/Tagliaferri | Yes |
| 47 | Item 2, Put the ISO15263DIS and French experimental standard XPR-18-904-4 side by side and try to extract relevant parts. | 2013 Apr 12 | van Ittersum | YES |
| 48 | Item 2, Contact Mr. Pierre Martin of BNA to get some background information to the ISO15263 work failing. | 2013 Apr 12 | Preud’homme, Westphäling |  |
| 49 | Item 4, Outline a proposal including the test conditions for applications of class L drawbar eyes with pin couplings. | 2013 Apr 12 | Preud´homme | YES |
| 50 | Item 5, Finalize a proposal text for Class W | 2013 Apr 12 | Stokreef, Svensson | YES |
| 51 | Item 7, Check-up whether there are anything in the French law that makes an integrated approval of coupling and drawbeam impossible. | 2013 Apr 12 | Lescail |  |
| 52 | Item 11, Communicate with the OEM about the implementation of indication in the instrument cluster. Consider also monochrome options. | 2013 Apr 12 | Teyssier, Tagliaferri | YES |
| 53 | Item 13, Outline an alternative regulation text/requirements for lateral force performance of drawbars. | 2013 Apr 12 | Westphäling, Tagliaferri, Svensson | YES |
| 54 | Item 14, Cancelled from the item list | 2013 Apr 12 |  | Yes |
| 55 | Item 20, Investigate the UNECE R54 (tyres) for the consideration of speed there in. | 2013 Apr 12 | Svensson | YES |
| 56 | Item 20, Investigate how axle manufacturers treat axle load an reduced speed. | 2013 Apr 12 | Svensson | YES |
| 57 | Item 20, A procedure used for a long time by VBG shall be applied a posteriori to historic certificates or recommendations issued by other manufacturers, Jost/Rockinger, Pommier, Orlandi, SAF/Holland | 2013 Apr 12 | Algüera, Tagliaferri, Feltham, Preud’hommeSvensson | YES |
| 58 | Item 20, Make a try to see how the Germans procedure of TA31 and the provisions in the CARLOS-testing could be integrated in to the regulation 55 | 2013 Apr 12 | Westphäling, Svensson | YES |
| 59 | Item 22, Outline a regulation text proposal to incorporate Dc vs. V trade-off | 2013 Apr 12 | Turlier, Svensson | YES |
| 60 | Item 24, Contact CLCCR-TC concerning rubbing plate deformations and any damage caused thereof. | 2013 Apr 12 | Algüera, Tagliaferri | YES |
| 61 | Item 25, Outline requirements on articulation angles in-use including center axle trailers and semi-trailers. | 2013 Apr 12 | Stokreef | YES |
| 62 | Item 26, Outline a regulation text proposal for requirements on information on fixing points. | 2013 Apr 12 | Stokreef | YES |
| 63 | Item 17 withdrawn from list | 2013 Oct |  | Yes |
| 64 | Item 3 Agreed | 2013 Apr |  | Yes |
| 65 | Item 5 Agreed | 2014 Jan |  | Yes |
| 66 | Item 10 Agreed | 2013 Apr |  | Yes |
| 67 | Item 11 Agreed | 2014 Jan |  | Yes |
| 68 | Item 13 Lateral forces new proposal | 2013 Oct | Bröckling | Yes |
| 69 | Item 14 Outline new proposal | 2013 Oct | Westphäling |  |
| 70 | Item 20 Evaluate current practices towards the proposal from Mr. Alguëra | 2013 Oct | WAP,Jost,VBG, Pommier, Orlandi, SAF/Holland | YES |
| 71 | Item 26 Feedback from OICA | 2013 Oct | Teyssier | Yes |
| 72 | Item 29 Outline proposal for separate technical unit | 2013 Oct | Bröckling | Yes |
| 73 | Item 2 Further accident statistics | 2014 Jan | Stokreef, van Ittersum, Jaumouille | YES |
| 74 | Item 4 New proposal for class L to be evaluated by all concerned | 2014 Jan | All | YES |
| 75 | Item 13 Detail the concerns and alternatives around the latest proposal | 2014 Jan | Svensson, Westphäling, Bröckling, Alguëra | YES |
| 76 | Item 14 gather more information from OEM:s and bodybuilders concerned | 2014 Jan | Westphäling, Tagliaferri, Turlier |  |
| 77 | Item 20 Contact OEM:s to get more background information | 2014 Jan | Westphäling, Svensson, Alguëra, Tagliaferri, Preud´homme, Stokreef | Yes |
| 78 | Item 21 Evaluate alternative means to include the rules from ISO 18868, Follow up on AVC group continuation, | 2014 Jan | Svensson | Yes |
| 79 | Item 22 Outline a master graphics to be possibly included in a coupling user´s manual | 2014 Jan | Svensson | Yes |
| 80 | Item 24 dropped from the list of Items | 2014 Jan |  | Yes |
| 81 | Item 26 outline a link between §§5.x and §3.2.8.  | 2014 Jan | Stokreef | YES |
| 82 | Item 26 no surplus information in list of new appendix to Annex 7. §§5.x enough possibly | 2014 Jan | Stokreef | YES |
| 83 | Item 11 change of Annex 5 § 3.7.5. to be formulated as an informal document to the 76th session of GRRF | 2014 Jan  | Svensson | Yes |
| 84 |  |  |  |  |