



CLCCR

International Association of the
Body and Trailer Building Industry

ACV-02-12

Report of 2nd meeting of GRRF/IG on Automated Connections between Vehicles (ACV)

Venue: Agoria, Diamant Building, Auguste Reyerslaan 80, 1030 Brussels
Chairman: Anders Gunneriusson (anders.gunneriusson@transportstyrelsen.se)
Secretariat: Annie Luchie (annie.luchie@agoria.be)
Date and time of the session : Tuesday, 17th May 2011
09:00 am until 04:30 pm

1. Welcome and Introduction

The Chairman welcomed everyone to the meeting. As participants were all present at the 1st session, no new introductions needed to be made.

2. Approval of the agenda

The agenda was approved. Discussion on document numbers ACV-06, ACV-07 and ACV-08 was moved from agenda item 6 to agenda item 7.

3. Outcome of the 1st meeting of the IG/ACV

The report of the first meeting was approved without changes. In the Terms of Reference, N1 category vehicle was added under point 2d).

3. Consideration of new documents submitted

Discussion on document ACV-02-09 :

Problem 1 : has been incorporated into the reworked document.

Problem 2 : the standard ISO 7638 is technically not up-to-date, this could be addressed either via ISO or via GRRF. It is a question of technical hardware on the vehicle; there is no pin to connect the red wire from the truck, this goes via the CAN bus. Assuming that all trucks have technical equipment then the other concern is one of philosophy.

The group considered that R13 is clear enough today but that all manufacturers have to come to an agreement on how to use it. This group has to work independently from the decision by the manufacturers and should start the discussion in GRRF. However, this group will wait with that until it has a complete overview.

Problem 3 : this problem addresses the terminology of this group. The group has to make a clear definition that it is impossible to make dead ends or loops.

The group looked at the sketches of document ACV-02-10.

Proposal : to allow only one connector on the truck and one connector on the trailer to avoid dead ends and reflections in these dead ends. The group proposes a split of the flex cable.

Today, some manufacturers produce trucks with two 7-pin connectors. Or the second connector is added afterwards. This can cause problems to the CAN bus. The proposal could be that attachment of the towing hitch can only happen if the other connector is de-coupled, as we must always have ABS. In other words, only one connector is allowed to be active at any one time.

JOST is to draft a first text for a proposal.

Problem 4 : is solved given our solution for problem 3.

Problem 5 : there is a standard on functional safety, ISO26262. A development process fulfilling that standard would, according to the representative of VBG, with high certainty deliver products and systems that fulfill the requirements in R13 Annex 18. As regards the current proposals, the handling of the connection of the compressed air for the braking of the towed vehicles are already subject to requirements of the R13 Annex 18 if that connection is handled by a complex electronic system. In the case of the VBG MFC coupling, the control system is reviewed as a separate part. The review report is thus a document to be included in the Annex 18 review of the complete braking system.

The reference to R13 Annex 18 in the proposal for change to R55 is only for the safety of the mechanical coupling, i.e. the realization of the requirement for a double locking device. The VBG MFC coupling is the first coupling having the mechanical connection controlled through a complex electronic system. Knowing the existence of R13 Annex 18, the representative of VBG reckons that it is good to require such a review with respect to the handling of the mechanical coupling. I.e. there is no need for the braking expert to know that there is a requirement for a review complex electronic system controlling the mechanical coupling. However, there is a requirement for the braking expert to know how the braking system is realized.

A good technical assessment of the system is necessary. The manual situation is no problem but with a control system judged to be complex, a report of the assessment is needed but nothing more. In R55 something is needed about remote opened coupling systems, such as that it must have an indicator, a double locking device and other so as to fulfill a certain safety level.

The reason why we have so many references to ISO 7638 lies in the fact that signals are not defined in R13. Only 1 or 2 references are really needed. Annex 18 is not the way to ensure that a certain safety level is reached, something must be done in R55.

When the mechanical part is closed and there is some loss of connection then a signal in the cab is needed. As not all solutions include that, we may need something specific.

Conclusion : problem 5 is solved if the reference to annex 18 is deleted.

Editorial comments on document ACV-02-09 were considered ok.

4. Consideration of concerns after the 1st meeting

None needed to be discussed.

6. ACV in R13

Discussion on document ACV-02-02 :

This document contains editorial changes only. Document ACV-02-02 was agreed with the word 'function' being replaced by the word 'signal', with incorporation of the paragraph on point-to-point from the JOST document ACV-02-10 and with moving paragraph 5.1.3.6.1. back under paragraph 2.34. Also, 'shall include' is replaced by 'includes' in paragraph 5.1.3.6.1.

Discussion on document ACV-02-04 :

The text of the entire document is to be merged with the text of document ACV-02-02. Also, in paragraph 5.1.3.6.2. we need to include that if more than one ISO 7638 is present, then a switch is needed so that only one connector can be active at any one time. That text no longer appears in 5.1.3.6.4.2. of document ACV-02-04. The group also decided that a sentence is needed to say that the reference to ISO 7638 only refers to manual connectors. The text of 5.1.3.6.4. parts 1, 2 and 3 is to be made more compact. In 6.4.2. the group considered it better not to refer to the ISO but rather to the technical content. Also the text of document ACV-02-10 is to be merged with this new text.

Discussion on document ACV-02-03 :

The group decided that this document can be left for discussion at a later stage but that it should be ready for when the amendments to R13 are presented to GRRF. This document will be a document separate from the proposal mentioned above.

Conclusion : VBG is to make a new proposal.

Discussion on document ACV-02-05 :

The content of this document was covered by the discussions above under this agenda item.

Discussion on document ACV-02-10 :

The group considered paragraph 2.32 ok. The functionality of the connector should be considered. If the tidying up earlier is agreed then this paragraph will be no longer necessary. The second paragraph of 2.32 assures compatibility.

Paragraph 5.1.3.6 was discussed earlier under this agenda item.

In the 2nd paragraph of the amended text we need to say something on the capacitance of the cable.

This document ACV-02-10 needs to be put together with documents ACV-02-04 and ACV-02-02.

The response time on an ACV trailer should not be more than when it was manually operated.

Conclusion : a new document will be prepared for the next meeting.

7. Technical Requirements from the standard

Consideration of Existing standards

In the draft proposal, the group will highlight sections in a different colour so as to show that we have the same requirements as in the ISO standard.

Documents ACV-02-06 and ACV-02-07 were reviewed by the group.

The representative of BPW gave the presentation contained in document ACV-02-08.

8. ACV in R55

Consideration of existing definitions.

The discussion of ACV in R55 was postponed to be got back to at a later stage.

9. Other business

The Chairman of this working group invited members to communicate.

10. List of action items

- VBG, JOST and BPW will draft a new document together
- BPW is to look at the electrical architecture of truck/trailer and the effects on the CAN bus. Also, how the split of the cable length as given in ISO 11992 should be done

11. Date and place of next meetings.

The Secretary is to ask the GRRF secretariat if a room is available for 12th September in conjunction with GRRF

The Secretary will ask mr G. Pitt from Australia which meeting he attends in Geneva so that this group can meet in conjunction.

The next meeting of this working group is scheduled for Monday 27th June 2011 in the offices of Agoria, Diamant Building, in Brussels.