


Economic Commission for Europe
Inland Transport Committee
World Forum for Harmonization of Vehicle Regulations
Working Party on Brakes and Running Gear
Eighty-second session

Geneva, 20–23 September 2016

Report of the Working Party on Brakes and Running Gear
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I. Attendance

1. The Working Party on Brakes and Running Gear (GRRF) held its eighty-second session from 20 to 23 September 2016 in Geneva. The meeting was chaired by the elected Chair of GRRF, Mr. B. Frost (United Kingdom of Great Britain and Northern Ireland). Experts from the following countries participated in the work, following Rule 1(a) of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (TRANS/WP.29/690, ECE/TRANS/WP.29/690/Amend.1 and Amend. 2): Australia, Belgium, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Hungary, India, Italy, Japan, the Netherlands, Norway, Poland, Russian Federation, Republic of Korea, Spain, Sweden, Switzerland, the United Kingdom of Great Britain and Northern Ireland (UK) and the United States of America (USA). An expert from the European Commission (EC) and an expert from the International Transport Forum / Organisation for Economic Co-operation and Development (ITF/OECD) also participated. Experts from the following non-governmental organizations (NGOs) participated: the International Association of the Body and Trailer Building Industry (CLCCR), the European Association of Automotive Suppliers (CLEPA/MEMA/JAPIA), the European Tyre and Rim Technical Organisation (ETRTO), La Fédération Internationale de l'Automobile (FIA), the Federation of European Manufacturers of Friction Materials (FEMFM), the International Motorcycle Manufacturers Association (IMMA), the International Organization for Standardization (ISO), the International Organization of Motor Vehicle Manufacturers (OICA) and Rubber Manufacturers Association (RMA). Upon the special invitation of the Chair, the following NGOs participated: European Committee of Associations of Manufacturers of Agricultural Machinery (CEMA), Imported Tyre Manufacturers Association (ITMA) and Recreation Vehicle Industry Association (RVIA).

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRRF/2016/24 and Add.1
Informal documents GRRF-82-01, GRRF-82-10 and GRRF-82-11

2. GRRF considered the agenda prepared for the eighty-second session and adopted it (ECE/TRANS/WP.29/GRRF/2016/24 and Add.1) as updated and reproduced in GRRF-82-11, including all informal documents received until the session's starting date.
3. GRRF also adopted the running order for the session as proposed in GRRF-82-01. The informal documents distributed during the session are listed in Annex I of this report.
4. The secretariat introduced GRRF-82-10, announcing that the next GRRF session would take place on 23-27 January 2017 and recalling that the deadline for the submission of official documents would be 28 October 2016.

III. Advanced Emergency Braking Systems and Lane Departure Warning Systems (agenda item 2)

5. The secretariat reminded that *Footnote 5* in the table of Annex 3 in the 01 series of amendments to Regulation No. 131 imposes the review of the target speed in cell H2 before 1 November 2021.

IV. Regulations Nos. 13 and 13-H (agenda item 3)

A. Electronic Stability Control

6. GRRF didn't receive any update on Electronic Stability Control (ESC).

B. Modular Vehicle Combinations

7. No progress was reported under this item, as the work of the experts on Modular Vehicle Combinations (MVC) was currently focusing on mechanical coupling aspects addressed under item 4, below.

C. Clarifications

Documentation: (ECE/TRANS/WP.29/GRRF/2013/13)
ECE/TRANS/WP.29/GRRF/2016/25
ECE/TRANS/WP.29/GRRF/2016/26
ECE/TRANS/WP.29/GRRF/2016/27
Informal documents WP.29-168-16 and GRRF-82-03

8. The Chair of GRRF recalled the purpose of ECE/TRANS/WP.29/GRRF/2013/13, adopted during the seventy-fifth GRRF session. The document remained on the agenda of GRRF, pending submission to the World Forum for Harmonization of Vehicle Regulations (WP.29) and the Administrative Committee of the 1958 Agreement (AC.1) of the adopted text for Regulation No. 89 (Speed limitation devices).

9. GRRF didn't receive any new information about the activities of the Special Interest Group (SIG) of experts dealing with the provisions of Annex 14 of Regulation No. 13.

10. The expert from the Russian Federation presented ECE/TRANS/WP.29/GRRF/2016/25 proposing the alignment of the Russian text with the French and English versions. GRRF agreed with the proposal and requested the secretariat to submit it as draft Corrigendum to Revision 8 of Regulation No. 13 (Heavy vehicle Braking) to WP.29 and AC.1 at their March 2017 sessions.

11. The expert from the Netherlands, recalling the initial discussion at WP.29, presented WP.29-168-16 proposing deletions in Annex 5 of Regulation No. 13. The expert from CLEPA provided an historical explanation about the development of the Regulation and a justification for a deletion of para. 2.2.1. He explained that the proposed deletion of para. 2.3.2. was not justified. GRRF agreed with the explanations provided and agreed to discuss this proposal at its next session on the basis of a revised proposal that the expert from the Netherlands volunteered to prepare.

12. The expert from France introduced ECE/TRANS/WP.29/GRRF/2016/26 proposing amendments to Annex 12 of Regulation No. 13. The proposal received a general support. The expert from Germany noted that some modifications of editorial nature might be necessary. GRRF agreed to revisit this item at its next session, on the basis of a revised proposal, that the experts from France and Germany volunteered to prepare.

13. The expert from CLEPA presented ECE/TRANS/WP.29/GRRF/2016/27, as amended by GRRF-82-03. GRRF supported the aim of this proposal. The proposal received several comments of editorial nature. GRRF agreed to keep both documents on the agenda of the next GRRF session.

D. Braking symbols in Regulation No. 121 (Identification of controls, tell-tales and indicators)

14. GRRF did not receive any new proposal to amend Regulation No. 121 or relevant new information from the Working Party on General Safety provisions (GRSG).

E. Other business

Documentation: Informal document GRRF-82-29

15. The Chair of GRRF invited the expert from RVIA to present GRRF-82-29. The expert from RVIA presented his association (being to date in the Economic and Social Council (ECOSOC) NGO accreditation process) and explained the difficulties of its members to receive approvals for their products according to Regulation No. 13 and sought guidance from GRRF on ways to address the issue. The expert from CLEPA stated that the products mentioned would not comply with several essential provisions of Regulation No. 13 and suggested to delete recreational vehicles of the scope of Regulation No. 13. The Chair wondered whether an NGO not yet successfully holding an ECOSOC accreditation would be entitled to make proposal to GRRF. The Secretary referred to the discussion held at WP.29 at its June 2016 session (see ECE/TRANS/WP.29/1123, para. 14) and the need to keep WP.29 informed.

V. Regulation No. 55 (agenda item 4)

Documentation: ECE/TRANS/WP.29/GRRF/2016/28
ECE/TRANS/WP.29/GRRF/2016/29
ECE/TRANS/WP.29/GRRF/2016/30
ECE/TRANS/WP.29/GRRF/2016/31
ECE/TRANS/WP.29/GRRF/2016/32
Informal documents GRRF-82-02, GRRF-82-05, GRRF-82-27, GRRF-82-28, GRRF-82-30, GRRF-82-33 and GRRF-82-37
Working paper R55-07-06

16. The Chair of the IWG on Regulation No. 55 presented (GRRF-82-02) a proposal (ECE/TRANS/WP.29/GRRF/2016/28) introducing amendments to Regulation No. 55 on *secondary coupling* and the *attachment points*. The expert from Italy responded to the proposal (GRRF-82-05). GRRF supported this proposal as amended and reproduced in GRRF-82-33.

17. The Secretary of the IWG introduced ECE/TRANS/WP.29/GRRF/2016/29 (amended by GRRF-82-27) with technical requirements for coupling devices for the purpose of modular vehicle combinations as well as "in-use" requirements for the combination of vehicles. The proposal, supported by GRRF, received some comments about the possibility to verify, at the time of type approval, the compliance with these "in use" requirements. GRRF questioned whether a driver could be requested to verify during a coupling phase the compatibility requirements defined in the proposal. The expert from CLEPA showed that calculation tools were available on the website of his company (www.vbg.se) and argued that it would be possible. GRRF agreed that this aspect of the proposal would need further consideration by the IWG who should recognise that new measures must be enforceable via type approval.

18. The Chair of the IWG presented ECE/TRANS/WP.29/GRRF/2016/30 introducing a procedure to identify permissible performance values combinations for drawbar coupling equipment. GRRF supported this proposal.

19. The Chair of the IWG introduced ECE/TRANS/WP.29/GRRF/2016/31 (as amended by GRRF-82-28) proposing clarifications and an amendment to the worst cases identification provisions. GRRF supported the proposal.

20. The expert from Germany volunteered to prepare a consolidated document encompassing all documents above (see paras. 16-19) while addressing the comments received. GRRF requested for this new document to be brought to the next session.

21. The expert from Poland introduced ECE/TRANS/WP.29/GRRF/2016/32 proposing to introduce requirements in Regulation No. 55 imposing that a coupling device can only be installed on an M₁ vehicle which was designed for its installation. The intention of the proposal received a general support. The expert from Denmark proposed that it should also apply to vehicles of category N₁. The experts from the Netherlands and Spain noted that the text of the Regulation already contained provisions in that sense (a list with such provisions is available in the IWG working paper R55-07-06). GRRF supported the idea proposed and agreed to revisit this item at its January 2017 session on the basis of a revised proposal that the experts from Denmark, the Netherlands, Poland and Spain volunteered to prepare.

22. The expert from Germany introduced the proposal for Terms of Reference of IWG on the Agricultural Coupling Devices and Components revised by the IWG (GRRF-82-30). GRRF adopted the proposal, reproduced in Annex II. The expert from Germany submitted GRRF-82-37 to GRRF, providing a status report of the IWGs' activities.

VI. Motorcycle braking (agenda item 5)

A. Regulation No. 78

Documentation: ECE/TRANS/WP.29/2016/114
Informal document GRRF-82-06-Rev.1

23. As agreed at the previous session, GRRF reviewed ECE/TRANS/WP.29/2016/114 proposing a new series of amendments to Regulation No. 78 (submitted to WP.29 and AC.1 for review and vote at their coming sessions). The expert from IMMA introduced GRRF-82-06-Rev.1, proposing three minor corrections. GRRF reconfirmed ECE/TRANS/WP.29/2016/114, adopted the editorial corrections, as reproduced in Annex III and requested the secretariat to submit it to WP.29 and AC.1, as an informal document amending ECE/TRANS/WP.29/2016/114 at their November 2016 sessions.

B. Global technical regulation No. 3

Documentation: Informal document GRRF-82-04

24. The expert from Italy consulted GRRF (GRRF-82-04) on a proposal to develop an amendment to GTR No. 3 on motorcycle braking. He informed that Italy, at the forty-eighth session of AC.3, would propose to sponsor this amendment, harmonizing the provisions of the GTR and those in Regulation No. 78, dealing with Electromagnetic Compatibility (EMC), tri-cycles Anti-lock Braking Systems (ABS), Emergency Stop Signal and means to disable the ABS function ('ABS switch'). The expert from Canada pointed out potential challenges related to the absence of specific EMC testing requirements for braking systems and the obligation to justify why mandating the fitment of ABS on tri-cycles. GRRF supported the content of GRRF-82-04. The expert from Italy volunteered to request the authorization to develop Amend. 3 to GTR No. 3 at the forty-eighth session of AC. 3 in November 2016.

VII. Regulation No. 90 (agenda item 6)

Documentation: ECE/TRANS/WP.29/GRRF/2016/18
Informal documents GRRF-82-32 and GRRF-82-36

25. The expert from Italy presented GRRF-82-32 introducing ECE/TRANS/WP.29/GRRF/2016/18, which was already presented once, at the February 2016 session. He pointed out that he didn't receive any feedback or comments on the proposal and that therefore the original proposal was not amended. GRRF adopted the proposal as amended and requested the secretariat to submit this proposal as draft Supplement 4 to the 02 series of amendments to Regulation No. 90 (Replacement braking parts), for consideration and vote at the June 2017 sessions of WP.29 and AC.1.

26. The expert from Spain introduced GRRF-82-36, providing a status report on the activities of the special interest group of experts dealing with the clarification and the interpretation of Regulation No. 90. He announced that he would present the conclusions of the group at the January 2017 session of GRRF. GRRF agreed to revisit this item at its next session.

27. The expert from CLEPA raised a concern related to the high market share of remanufactured brake callipers and stated the risk related to what she called a potentially dangerous and uncontrolled "brake calliper grey market".

VIII. Tyres (agenda item 7)

A. Global technical regulation No. 16

Documentation: Informal documents GRRF-82-25 and GRRF-82-31

28. The expert from ETRTO introduced GRRF-82-25 presenting the conclusions of their considerations on the development of the Amendment No. 2 to UN GTR No. 16. The expert from the Russian Federation proposed his leadership to develop this amendment and consulted GRRF on the necessity to establish an IWG on the Tyre GTR. He then introduced GRRF-82-31 proposing draft Terms of Reference for the IWG. GRRF endorsed the proposal as reproduced in Annex IV. The expert from the Russian Federation volunteered to request the authorization to develop Amend. 2 to GTR No. 16 at the forty-eighth session of AC. 3.

B. Regulation No. 30

Documentation: ECE/TRANS/WP.29/GRRF/2016/33
ECE/TRANS/WP.29/GRRF/2016/34
Informal document GRRF-82-22

29. The expert from ETRTO introduced ECE/TRANS/WP.29/GRRF/2016/33 (as updated by GRRF-82-22), proposing editorial corrections.

30. The expert from France introduced ECE/TRANS/WP.29/GRRF/2016/34 with provisions for tyres designed for a "special" application which also fulfil the definition of a "snow" tyre.

31. GRRF adopted both proposals and requested the secretariat to submit them as draft Supplement 19 to the 02 series of amendments to Regulation No. 30 (Tyres for passenger

cars and their trailers) to WP.29 and AC.1 for consideration and vote at their June 2017 sessions.

C. Regulation No. 54

Documentation: ECE/TRANS/WP.29/GRRF/2016/35
ECE/TRANS/WP.29/GRRF/2016/36
Informal document GRRF-82-23

32. The expert from ETRTO introduced ECE/TRANS/WP.29/GRRF/2016/35 as amended by GRRF-82-23 proposing editorial corrections to Regulation No. 54. He also introduced ECE/TRANS/WP.29/GRRF/2016/36 proposing amendments to provisions on the minimum markings heights.

33. GRRF agreed with all documents above (see para. 32.) and requested the secretariat to keep the documents on the agenda for the next session.

D. Regulation No. 75

Documentation: ECE/TRANS/WP.29/GRRF/2016/37

34. The expert from France introduced ECE/TRANS/WP.29/GRRF/2016/37 proposing clarifications in line with those proposed previously to Regulations Nos. 30, 54 and 117. GRRF adopted this proposal and requested the secretariat to submit it as draft Supplement 16 to Regulation No. 75 (Tyres for motorcycles/mopeds) to WP.29 and AC.1 for consideration and vote at their March 2017 sessions.

E. Regulation No. 106

Documentation: ECE/TRANS/WP.29/GRRF/2016/38
ECE/TRANS/WP.29/GRRF/2016/39
ECE/TRANS/WP.29/GRRF/2016/46
ECE/TRANS/WP.29/GRRF/2016/47
Informal document GRRF-82-24-Rev.1

35. The expert from ETRTO presented ECE/TRANS/WP.29/GRRF/2016/38, proposing amendments on tyre markings, similar amendments to those proposed by the expert from France (see ECE/TRANS/WP.29/GRRF/2016/37) and harmonized provisions with those in another EU Regulation (namely Regulation EU 167/2013) which defines vehicles of Category S as "*interchangeable towed equipment*". GRRF amended the proposal, as reflected in GRRF-82-24-Rev.1.

36. The expert from ETRTO proposed ECE/TRANS/WP.29/GRRF/2016/39 introducing updates to Annex 5.

37. GRRF agreed with the proposals above (see paras. 35-36) and requested the secretariat to keep the documents on the agenda of its January 2017 session.

38. The expert from ETRTO withdrew ECE/TRANS/WP.29/GRRF/2016/46 and ECE/TRANS/WP.29/GRRF/2016/47.

F. Regulation No. 109

Documentation: ECE/TRANS/WP.29/GRRF/2016/40
ECE/TRANS/WP.29/GRRF/2016/41

39. GRRF resumed consideration of proposed amendments to Annexes 7 and 10 to Regulation No. 109 as well as the proposal originally submitted by the expert from Slovakia, in ECE/TRANS/WP.29/GRRF/2016/40. The expert from ETRTO presented a proposal for amendments to tyre marking requirements in ECE/TRANS/WP.29/GRRF/2016/41.

40. GRRF adopted both proposals and requested the secretariat to submit them as draft Supplement 8 to Regulation No. 109 (Retreaded tyres for commercial vehicles and their trailers) to WP.29 and AC.1 for consideration and vote at their March 2017 sessions.

G. Regulation No. 117

Documentation: ECE/TRANS/WP.29/GRRF/2016/42

41. The expert from ETRTO introduced ECE/TRANS/WP.29/GRRF/2016/42 proposing amendments to the type definition.

42. GRRF agreed with the proposal and requested the secretariat to keep the document on the agenda of its January 2017 session.

H. Regulation on tyre installation

Documentation: ECE/TRANS/WP.29/GRRF/2016/43

43. The expert from ETRTO introduced ECE/TRANS/WP.29/GRRF/2016/43 proposing editorial corrections to the Regulations.

44. GRRF agreed with the corrections and requested the secretariat to keep the document on the agenda of the next session.

I. Regulation on Tyre Pressure Monitoring Systems

Documentation: ECE/TRANS/WP.29/GRRF/2016/44

45. The expert from ETRTO introduced ECE/TRANS/WP.29/GRRF/2016/44 proposing editorial corrections to the Regulations.

46. GRRF agreed with the corrections and requested the secretariat to keep the document on the agenda of the next session.

J. Other business

Documentation: Informal document GRRF-82-21

47. The expert from ETRTO presented GRRF-82-21 collecting the definitions in UN Regulations on tyres. He added that doing this review, they noted some possible harmonization of definitions across the Regulations. They invited the delegates to review the document and to indicate whether GRRF would support amending the Regulations in order to harmonize the definitions when relevant or develop a Resolution containing definitions. GRRF agreed to keep this document on the agenda of the next session.

IX. Intelligent Transport Systems (agenda item 8)

A. Vehicle automation

48. GRRF did not receive any contribution under this agenda item.

B. Other ITS issues

Documentation: Informal document GRRF-82-16

49. GRRF received an oral report from the Secretary of the IWG on Intelligent Transport Systems / Automated Driving on the outcome of the latest meeting that took place one day before the start of this GRRF session. The Secretary referred to GRRF-82-16 containing the latest document discussed with elements determining the definitions of automation levels. He noted that it was intended to be a living document delivering the conceptual framework, while GRRF was dealing with technical requirements. GRRF noted the importance of the work done by the IWG and supported the view expressed by the Chair on the necessity to allocate more time for this IWG in the framework of the WP.29 activities.

50. Three intergovernmental bodies dealing with automated driving had their sessions during the third week of September 2016, in the Palais des Nations in Geneva. Taking advantage of the experts' attendance, the Working Party on Road Traffic Safety (WP.1) and the Working Party on Brakes and Running Gear (GRRF) broke their usual work on 20 September 2016 (afternoon) in order to meet together informally in the configuration of the 2016 UNECE ITS flagship event as joint meeting of WP.1, WP.29/GRRF and IWG on ITS/AD experts. This ad hoc meeting, aiming at an in-depth exchange of views and information, was moderated by Mrs. L. Iorio (Chair of WP.1) and by Mr. B. Frost (Chair of GRRF). Mr. J. Valmain (Chair of the Informal Group on Automated Driving) gave a status report on the activities of WP.1 and its informal group. Mr. O. Klöckner (Germany) gave a status report on the activities of the GRRF Informal Working Group on ACSF (Regulation No.79). The WP.1 delegate from Sweden wondered why GRRF was prioritizing its work on technical provisions applicable for lower levels of automation, if it would block technical progress and the introduction of these technologies. The Chair of GRRF noted that no Contracting Party and no other stakeholder presented any request or proposal related to higher level of automation and that no members of the industry expressed the need to do so at this stage. The expert from OICA confirmed some public relations activities on these technologies and explained that they were mostly related to market probing activities. The delegate from Slovakia wondered whether driver training would be necessary in order for drivers to understand and well control these new technologies. The delegate from Germany mentioned the work done on Human Machine Interface (HMI) to minimize system complexity and make systems intuitive for the driver. The WP.1 delegate from Belgium noted the Terms of Reference of the IWG on ACSF. He raised the question whether a driver or a system would be able to identify a highway in the sense of the Regulation. The expert from Finland, responding to the expert from Sweden, added that shuttles, with automation corresponding to those described in the SAE level 4 definition, would be locally or nationally approved. He noted that the work at the WP.1 level might have to be ahead of the regulatory work done at the GRRF level. The Chair of GRRF noted that the use of Remote Controlled Parking (RCP) systems may be prohibited by traffic laws in some Countries. The expert from WP.1 and GRRF experts noted that some future work could be of mutual interest, especially a reflection on secondary tasks that can be performed by drivers during automated driving phases.

X. Steering equipment (agenda item 9)

A. Regulation No. 79

51. GRRF did not receive any contribution under this agenda item.

B. Lane Keeping Assist System and Parking Assist System

Documentation: ECE/TRANS/WP.29/GRRF/2015/2
Informal documents GRRF-79-04, GRRF-80-08 and GRRF-81-14

52. This agenda item was discussed together with the following agenda item. The secretariat noted the decision of their authors and GRRF to remove ECE/TRANS/WP.29/GRRF/2015/2, GRRF-79-04, GRRF-80-08 and GRRF-81-14 from the agenda, as the progress done under the following agenda item would cover the subjects covered by those documents.

C. Automatically Commanded Steering Function

Documentation: ECE/TRANS/WP.29/GRRF/2016/45
Informal documents GRRF-82-07, GRRF-82-08, GRRF-82-09, GRRF-82-12-Rev.3, GRRF-82-13, GRRF-82-14, GRRF-82-15, GRRF-82-17, GRRF-82-18, GRRF-82-19, GRRF-82-20-Rev.1, GRRF-82-26 and GRRF-82-34

53. The expert from Germany introduced ECE/TRANS/WP.29/GRRF/2016/45, containing four *options* as possible ways forward to progress on ACSF. The Secretary of the IWG on Automatically Commanded Steering Function (ACSF) gave a presentation reporting on the progress made by the group (GRRF-82-17). He reported on definitions proposed for ACSF of Categories A to E, clarifications proposed for Corrective Steering Functions (CSF) and new provisions proposed for RCP. GRRF acknowledged the status report received and agreed to work on an amendment to *Option 4* as proposed by GRRF-82-12. The proposal for *Option 4* received several comments in GRRF-82-08, GRRF-82-09, GRRF-82-14, GRRF-82-15, GRRF-82-18, GRRF-82-19 and GRRF-82-26.

54. The expert from Sweden commented on GRRF-82-14 informing that road construction standards would define design requirements (inclination profile) leading to the road side forces corresponding to 1 m/s^2 and that this value was even higher on roads designed for low speed. GRRF adopted the value 0.8 m/s^2 proposed in this document for ACSF of categories A and B1 only, as a strict minimum, noting that it was taking account of a 0.2 m/s^2 measurement uncertainty and that the value 0.8 m/s^2 would *de facto* impose manufacturers to design systems according to a higher value in practice.

55. The expert from Germany presented GRRF-82-34 with test results obtained with a standard vehicle, demonstrating the feasibility of the test procedures proposed in Annex 8.

56. GRRF adopted GRRF-82-12-Rev.3, subject to confirmation in January 2017 by GRRF, and requested the secretariat to submit it to WP.29 and AC.1 as a draft Supplement 6 to the 01 series of amendments to Regulation No. 79 (Steering equipment) for consideration and vote in March 2017.

57. The expert from FIA presented GRRF-82-07 on data privacy and cyber security of (partly) automated driving and on Data Storage Systems for ACSF (DSSA). He advocated against potential DSSA installation requirements for data protection and cyber security reasons as, to date, no clarity would be provided on consumer protective measures. He stated that such systems could facilitate the collection (also over-the-air, outside of the

vehicle) and interpretation of a large amount of data, that could easily be used against the driver, in various situations (e.g. for commercial, warranty, recall and liability purposes). He urged therefore GRRF to ban such systems as long as no fair and balanced relations among stakeholders would be guaranteed.

58. The expert from OICA presented GRRF-82-13 proposing the introduction of provisions applicable for Emergency Steering Functions (ESF). GRRF supported the proposal but noted the absence of objective testing requirements to verify the safe operation of such systems at the time of Type Approval. Therefore, GRRF invited the IWG on ACSF to develop provisions for ESF.

59. The expert from the European Commission presented GRRF-82-18 reporting on research activities looking for ways to improve Annex 6 on Complex Electronic Systems in Regulation No. 79 and introducing GRRF-82-19 with amendments to this annex. GRRF requested the secretariat to distribute GRRF-82-19 with an official symbol at its next session.

60. The expert from Germany introduced on behalf of Germany and Japan revised draft ToR for the IWG on ACSF (GRRF-82-20-Rev.1). GRRF adopted the document as reproduced in Annex V.

XI. International Whole Vehicle Type Approval (agenda item 10)

A. Report on the IWVTA informal group and subgroup activities

Documentation: Informal document GRRF-82-35

61. The GRRF Ambassador at the IWG on International Whole Vehicle Type Approval (IWVTA) presented a status report (GRRF-82-35) on the activities of the IWG.

B. Other business

62. GRRF did not receive any new document to be discussed under this agenda item.

XII. Regulation No. 89 (agenda item 11)

Documentation ECE/TRANS/WP.29/GRRF/2016/21

63. The expert from OICA withdrew ECE/TRANS/WP.29/GRRF/2016/21.

XIII. Exchange of views on innovations, automations and self-driving cars (agenda item 12)

64. No information was shared under this agenda item.

XIV. Election of Officers (agenda item 13)

65. In compliance with Rule 37 of the Rules of Procedure (TRANS/WP.29/690 and Amends. 1 and 2), GRRF called for the election of officers on Tuesday morning. Mr. Frost (UK) was unanimously elected Chair of GRRF for the sessions scheduled for the year 2017. Mr. Murai (Japan) was elected Vice-Chair of GRRF for the same period.

XV. Other business (agenda item 14)

A. Highlights of the March and June 2016 sessions of WP.29

Documentation: (ECE/TRANS/WP.29/1120, ECE/TRANS/WP.29/1123)
Informal document GRRF-82-10

66. The secretariat introduced GRRF-82-10 reporting on the GRRF relevant highlights of the 168th and 169th sessions of WP.29. For more information, please refer to the session reports (ECE/TRANS/WP.29/1120, ECE/TRANS/WP.29/1123).

B. Any other business

Documentation: Informal documents WP.29-168-15 and WP.29-169-13

67. The Secretary informed GRRF, as recommended by WP.29, about discussions that took place at WP.29 in March and June 2016 on the performance of automotive systems (especially those relying on software) in conditions other than those tested according to the regulated test procedures. He presented WP.29-168-15 and WP.29-169-13 and highlighted some parts of the documents (a) providing some examples showing the relevance of the question and compelling experts to be vigilant when reviewing, amending or drafting technical regulations, (b) listing existing regulatory instruments available to experts when drafting regulations applicable for such software-based systems.

68. The Chair of GRRF stated the importance of being vigilant to this matter and encouraged experts to keep it in mind when reviewing, amending or drafting technical regulations.

C. Tributes

69. Learning that Mr. Pierre Laurent (CLEPA) and Mr. Colin Ross (CLEPA) would retire and, therefore, no longer attend the sessions, GRRF acknowledged their considerable contributions to the activities of the group. GRRF wished them a long and happy retirement. GRRF also learned that Mr. Kristof Schockaert (Belgium) would no longer attend GRRF session. GRRF acknowledged his great cooperation with GRRF and wished him all the best for his new responsibilities.

XV. Provisional agenda for the eighty-third session

70. The following provisional agenda was endorsed for the eighty-second session of GRRF, scheduled to be held in Geneva from 23 (starting at 2.30 p.m.) to 27 (concluding at 12.30 p.m.) January 2017¹:

1. Adoption of the agenda.
2. Advanced Emergency Braking Systems and Lane Departure Warning Systems.
3. Regulations Nos. 13 and 13-H:

¹ GRRF noted that the deadline for submission of official documents to the UNECE secretariat was 28 October 2016, twelve weeks prior to the session.

- (a) Modular Vehicle Combinations;
 - (b) Clarifications;
 - (c) Other business.
4. Regulation No. 55.
5. Motorcycle braking:
- (a) Regulation No. 78;
 - (b) Global technical regulation No. 3.
6. Regulation No. 90.
7. Tyres:
- (a) Global technical regulation No. 16;
 - (b) Regulation No. 30;
 - (c) Regulation No. 54;
 - (d) Regulation No. 75;
 - (e) Regulation No. 106;
 - (f) Regulation No. 109;
 - (g) Regulation No. 117;
 - (h) Regulation on tire installation;
 - (i) Regulation on Tyre Pressure Monitoring Systems;
 - (j) Other business.
8. Intelligent Transport Systems:
- (a) Vehicle automation and connectivity
 - (b) Other ITS issues.
9. Steering equipment:
- (a) Regulation No. 79;
 - (b) Automatically Controlled Steering Function.
10. International Whole Vehicle Type Approval:
- (a) Report on the IWVTA informal group and subgroup activities;
 - (b) Other business.
11. Exchange of views on innovations and relevant national activities.
12. Other business:
- (a) Highlights of the November 2016 session of WP.29;
 - (b) Any other business.

Annex I

List of informal documents (GRRF-82-...) considered during the session

[English only]

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
1	(GRRF Chair) Running order	A
2	(R55) Proposal for amendments to Regulation No. 55	F
3	(CLEPA) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2016/27	D
4	(Italy) Proposal for amendments to GTR No. 3	A
5	(Italy) Actual provisions in Annex 5 of Regulation No. 55 (01 series)	F
6	(IMMA) Proposal for amendments to ECE/TRANS/WP.29/2016/114	B
7	(FIA) Data Privacy and Cyber Security in (partly) Automated Driving	F
8	(IWG on ACSF) Proposal for amendments to Regulation No. 79	F
9	(Germany) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2016/45	F
10	(Secretariat) General information	F
11	(Secretariat) Updated and consolidated provisional agenda (20/09/2016)	B
12	(GRRF) Consolidated proposal for amendments to GRRF-82-08	B
13	(OICA/CLEPA) Emergency Steering Function (ESF)	F
14	(OICA/CLEPA) Justification for an acceleration value lower than 1.0m/s ² (in para. 5.6.2.1.3. proposed in GRRF-82-08)	F
15	(OICA/CLEPA) Proposal for amendments to GRRF-82-09	F
16	(ITS/AD) Draft definitions of Automated Driving under WP.29 and the General Principles for developing UN Regulations	F
17	(ACSF) Presentation of GRRF-82-08	F
18	(EC) Support for the amendments to Regulation No. 79 to allow the approval of ACSF, in particular LCA and enhanced LKA systems	F
19	(EC) Proposal for amendments to Annex 6 of Regulation No. 79	C
20	(Germany/Japan) Proposal for updated ToR for the IWG on ACSF	B
21	(ETRTO) Definitions in regulations dealing with tyres	D
22	(ETRTO) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2016/33	A
23	(ETRTO) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2016/35	D
24-	(ETRTO) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2016/38	C
Rev.1		
25	(ETRTO) UN GTR on Tyres, status report and further steps	F
26	(France) proposal for amendments to GRRF-82-12	F
27	(R55) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2016/29	A
28	(R55) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2016/31	A
29	(RVIA) Recreation Vehicle Electric Brakes under Regulation No. 13	F

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
30	(ACDC) Proposal for ToR and RoP for the IWG on ACDC	A
31	(Russian Federation) Draft ToR and RoP of the IWG for the Phase 2 of development of UN GTR No. 16	A
32	(Italy) Presentation supporting ECE/TRANS/WP.29/GRRF/2016/18	F
33	(Secretariat) Amendment to ECE/TRANS/WP.29/GRRF/2016/28 agreed during the session	A
34	(Germany/BASt) Presentation of tests results supporting the tests proposed in draft Annex 8 of UN R79	F
35	(IWVTA Ambassador) Status report	F
36	(Spain) Status report of the SIG of experts dealing with Regulation No. 90	F
37	(ACDC) Status report of the informal working group on ACDC	A

Notes:

- A Endorsed or adopted without amendment.
- B Endorsed or adopted with amendments.
- C Resume consideration on the basis of a document with an official symbol.
- D Kept as reference document/continue consideration.
- E Revised proposal for the next session.
- F Consideration completed or to be superseded.

Annex II

Adopted Terms of Reference of Informal Working Group on Agricultural Coupling Devices and Components

Adopted on the basis of GRRF-82-30

I. Terms of Reference

1. The Informal Working Group (IWG) shall prepare a proposal for a new UN Regulation "Uniform Provisions Concerning the Approval of Mechanical Coupling Components of Combinations of Agricultural Vehicles".
2. The IWG shall follow the structure and concept of the present UN Regulation No. 55 also with regard to the limited number of coupling classes and will consider the peculiarities of agricultural vehicles when determining the requirements and test methods.
3. As a basis for the discussions the IWG shall use the present UN Regulation No. 55 and the results achieved by the Task Force Group Agricultural Couplings (TFAC) in the frame of the work of IWG on Regulation No. 55 (GRRF 81-10).
4. The IWG will consider the scope to be applied to vehicles of category T, R and S as defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3).
5. The target completion date for the work of the IWG shall be the eighty-fourth session of GRRF in September 2017.
6. A final decision on regulatory proposals remains with WP.29 and the Contracting Parties.

II. Rules of Procedure

1. The IWG is a subgroup of GRRF, and is open to Contracting Parties, Vehicle Manufacturers, Component Manufacturers and Suppliers, Technical Services, Mechanical Strength experts, etc.
2. A Chairman and a Secretary will manage the informal working group.
3. The official working language of the informal group will be English.
4. All documents and/or proposals must be submitted to the Secretary of the group in a suitable electronic format in advance of the meeting. The group may refuse to discuss any item or proposal which has not been circulated ten working days in advance.
5. An agenda and related documents will be made available on the website by the Secretary of the informal working group, in advance of all scheduled meetings.
6. Decisions will be reached by consensus. When consensus cannot be reached, the Chair shall present the different points of view to GRRF. The Chair may seek guidance from GRRF as appropriate.
7. The progress of the informal working group will be routinely reported to GRRF – whenever possible as an informal document and presented by the Chair, the Secretary or their representative(s).
8. All working documents shall be distributed in digital format. Meeting documents should be made available to the Secretary for publication on the dedicated website.

Annex III

Adopted amendments to ECE/TRANS/WP.29/2016/114

Adopted on the basis of GRRF-82-06-Rev. 1

In ECE/TRANS/WP.29/2016/114,

Proposed paragraph 5.1.16, item (e) and (f), amend to read:

- "(e) The disablement of the antilock brake system function shall be indicated by the activation of symbol B.18 as specified in ISO 2575:2010 (ISO 7000-2623) or any other equivalent unequivocal indication of the disabled antilock brake system state. Alternatively the warning lamp referred to in paragraph 5.1.13. shall be continuously activated (i.e. lit or flashing); and
- (f) Prohibition of any software and/or hardware defeat device compromising or allowing to circumnavigate one or more of the requirements set out in points (a) to (e); and"

Annex IV

Endorsed Terms of Reference and Rules of Procedure of the Informal Working Group for the Phase 2 of development of UN GTR No. 16 (Tyres)

On the basis of GRRF-82-31

A. Draft Terms of Reference

1. The Informal Working Group (IWG) shall develop, in the framework of the 1998 Agreement, the Amendment No. 2 to UN Global Technical Regulation (GTR) No. 16 on tyres aimed at further harmonization of its provisions for LT/C tyres and adaptation of UN GTR No. 16 to the technical progress.
2. The Amendment No. 2 to GTR No. 16 (Phase 2 of development) shall address the harmonization of Physical Dimensions Test ("Phase 2A") and High Speed Test ("Phase 2B").
3. The Amendment No. 2 to GTR No. 16 at phase 2A shall also cover the most recent updates of UN Regulations Nos. 30 and 54 [as well as FMVSS of the United States].
4. The IWG also will consider the feasibility of introduction of provisions for tyre global marking within GTR No. 16.
5. The provisions to be developed shall be suitable for the both type approval and self-certification compliance assessment systems.
6. The IWG meetings primarily shall be organized in conjunction with the GRRF regular sessions.

B. Draft Rules of Procedure

7. The IWG is a subgroup of GRRF, and is open to all participants of GRRF.
8. The IWG will be chaired by the GTR No. 16 technical sponsor (Russian Federation). ETRTO will act as a Secretary.
9. The IWG official language will be English.
10. All documents and/or proposals must be submitted to the IWG Secretary in a suitable electronic format at least one week before the meeting.
11. An agenda and related documents will be circulated to all IWG members in advance of all scheduled meetings.
12. All IWG documents will be made available on the dedicated UNECE website.
13. The IWG decisions will be reached by consensus. When consensus cannot be reached, the IWG Chairman shall present the different points of view to GRRF and seek guidance from GRRF as appropriate.
14. The IWG progress will be routinely reported to GRRF by the IWG Chairman or his representative.

D. Timeline

15. The proposed action plan:

(a) January 2017: Introduction and consideration of the proposal for Phase 2A at the eighty-third GRRF session as an informal document;

(b) September 2017: Introduction and consideration of the proposal for Phase 2B at the eighty-fourth GRRF session as an informal document;

(c) February 2018: Submitting of the GRRF working document. Consideration of remaining issues (if any) at the 85th GRRF session;

(d) June 2018: Adoption of the proposal by AC.3, if no remaining issues had existed;

(e) November 2018: Adoption of the proposal by AC.3, if all remaining issues had been solved.

Annex V

Adopted revised Terms of Reference for the Informal Working Group on Automatically Commanded Steering Functions

Adopted on the basis of GRRF-82-20-Rev.1

I. Terms of Reference

1. The Informal Working Group (IWG) shall review the requirements and limitations associated with Automatically Commanded Steering Function technology (ACSF) as defined in Regulation No. 79. It shall prepare a draft regulatory proposal regarding advances in control system technology and the transport opportunities provided by the Vienna and Geneva Conventions.

2. The IWG shall address the following issues:

(a) Review the current speed limitation (10 km/h) with the purpose of permitting ACSF functionality during interurban journeys.

(b) Define Human Machine Interface (HMI) requirements for communicating between ACSF-system and the driver (e.g. system status, malfunction, transition).

(c) Define requirements to enable the evaluation of ACSF during periodic technical inspection.

(d) Outstanding issues identified during the eighty-second session of GRRF shall be addressed (e.g. ESF).

Constraints:

- The driver shall be able to activate and deactivate the system.

- The driver shall, at all times, be able to override the system.

3. The group will focus on systems for vehicles of categories N and M.

4. The group should take full account of existing data and research in developing its regulatory proposals. It should consider pre-existing standards (e.g. ISO, SAE and JSAE) and Regulations from other territories for ACSF developing its proposals.

5. As a first step, the target completion date for the informal group's work for less complex ACSF categories shall be the eighty-second session of GRRF in September 2016 (See ECE/TRANS/WP.29/GRRF/2016/45 as amended).

6. As second step the target completion date for the IWG work on the ACSF category which includes a function of a single manoeuvre (e.g. lane change) when commanded by the driver shall be the eighty-third session of GRRF in January 2017.

7. And then the target completion date for the informal group's work of further development ACSF shall be the eighty-fourth session of GRRF in September 2017.

8. The final decision on regulatory proposals remains with WP.29 and the Contracting Parties.

II. Rules of Procedure

9. The IWG is a subgroup of GRRF, and is open to all participants of GRRF.
 10. Two Co-Chairs and a Secretary manage the IWG.
 11. The official language of the IWG is English.
 12. All documents and/or proposals shall be submitted to the Secretary of the IWG in a suitable electronic format in advance of the meeting. The group may refuse to discuss any item or proposal which has not been circulated ten working days in advance.
 13. An agenda and related documents is circulated to all members of the informal group in advance of all scheduled meetings.
 14. Decisions are reached by consensus. When consensus cannot be reached, one of the Co-Chairs of the group shall present the different points of view to GRRF. The Co-Chairs may seek guidance from GRRF as appropriate.
 15. The progress of the IWG will be routinely reported to GRRF – wherever possible as an informal document and presented by the Co-Chairs or one of their representatives.
 16. All documents shall be distributed in digital format. Meeting documents should be made available to the Secretary for publication on the dedicated website.
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