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World Forum for Harmonization of Vehicle Regulations (WP.29)

Working Party on Brakes and Running Gear (GRRF)

REPORT OF THE WORKING PARTY ON BRAKES AND RUNNING GEAR (GRRF)
ON ITS FORTY-NINTH SESSION

(29 January - 2 February 2001)

1. GRRF held its forty-ninth session from 29 January (afternoon) to 2 February 2001 (morning) under the Chairmanship of Mr. M. Fendick (United Kingdom). Experts from the following countries participated in the work: Belgium; Canada; Croatia; Czech Republic; Denmark; Finland; France; Germany; Hungary; Italy; Japan; Netherlands; Norway; Russian Federation; Slovakia; Spain; Sweden; United Kingdom; United States of America. A representative of the European Commission (EC) also participated. A representative of the Republic of South Africa took part in the session under Rule 1 (b) of the Rules of Procedure of WP.29 (TRANS/WP.29/690). Experts from the following non-governmental organizations participated: International Organization for Standardization (ISO); International Organization of Motor Vehicle Manufacturers (OICA); European Association of Automobile Suppliers (CLEPA); International Motorcycle Manufacturers Association (IMMA); European Tyre and Rim Technical Organization (ETRTO); Federation of European Manufacturers of Friction Materials (FEMFM).

2. The documents without a symbol distributed during the session are listed in annex 1 to this report.

REGULATIONS Nos. 13 and 13-H (Braking)

(a) Further development

Documentation: TRANS/WP.29/GRRF/2000/4/Rev.1; TRANS/WP.29/GRRF/2000/5/Rev.1; TRANS/WP.29/GRRF/2000/9; TRANS/WP.29/GRRF/2000/14; TRANS/WP.29/GRRF/2000/15; TRANS/WP.29/GRRF/2000/16; TRANS/WP.29/GRRF/2000/17; TRANS/WP.29/GRRF/2000/27/Add.1; TRANS/WP.29/GRRF/2000/27/Rev.1; TRANS/WP.29/GRRF/2001/1; TRANS/WP.29/GRRF/2001/3; TRANS/WP.29/GRRF/2001/6; informal documents Nos. 5, 20 and 22 of annex 1 to this report.

3. GRRF continued consideration of the proposals by Germany to allow the installation of a manual switch-off of the anti-lock braking system on Off-Road-Vehicles for both Regulation No. 13 and Regulation No. 13-H (TRANS/WP.29/GRRF/2000/4/Rev.1 and TRANS/WP.29/GRRF/2000/15). GRRF agreed with the principle, but decided to resume the consideration at the next meeting, looking for the clearest possible wording of the proposals.

4. GRRF considered and adopted the proposal transmitted by the expert from Germany, updating the prescriptions for vehicles equipped with inertia (overrun) braking systems (TRANS/WP.29/GRRF/2000/14). It was also agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2001 sessions.

5. With regard to the proposals to align the prescriptions of Regulation No. 13 with the ADR prescriptions, GRRF realized that the proposal of document TRANS/WP.29/GRRF/2000/17 was included in document TRANS/WP.29/GRRF/2000/27/Rev.1 and that document TRANS/WP.29/GRRF/2000/27/Add.1 was an explanation only.

6. The expert from Spain noted that the proposal required power-driven vehicles to provide the endurance braking performance for the whole combination. He said that the current configuration of vehicles sharing the effectiveness of the endurance braking performance between the power-driven vehicle and the trailer would not be accepted for new vehicles and perhaps also for vehicles in use, depending on the drafting of the ADR. To solve the issue for vehicles in use, he requested that the text of the ADR should have a long transitional period, to allow current vehicles to continue in service sharing the endurance braking between the power-driven vehicle and trailer.

7. Under this above-mentioned condition, GRRF adopted the proposal of document TRANS/WP.29/GRRF/2000/27/Rev.1. GRRF requested the secretariat to contact the WP.15 secretariat, in order to include in the ADR only a reference to Regulation No. 13, including its annex 5, if necessary, and to allow the shared endurance braking performance for combinations of vehicles currently in use. GRRF also agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2001 sessions.

8. The expert from Germany presented an updated proposal for avoiding false detected failures causing the anti-lock braking system to be switched-off

under static conditions (TRANS/WP.29/GRRF/2000/5/Rev.1). The expert from OICA presented informal document No. 20 with an alternative drafting.

9. After discussion GRRF adopted the above proposal amended by informal document No. 20 for amending Regulation No. 13, as reproduced in annex 2 to this report, and agreed to transmit it to WP.29 and AC.1 for consideration at their June 2001 sessions.

10. GRRF also adopted the parallel proposal for Regulation No. 13-H contained in document TRANS/WP.29/GRRF/2000/16 as reproduced in annex 3 to this report. It was also agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2001 sessions.

11. The expert from CLEPA presented informal document No. 5 that superseded document TRANS/WP.29/GRRF/2000/9. GRRF adopted it, as reproduced in annex 2 to this report, and agreed to transmit it to WP.29 and AC.1 for consideration at their June 2001 sessions.

12. GRRF agreed to verify at the next session the text of paragraph 5.2.2.14. of Regulation No. 13, i.e. to verify if the current reference to paragraph 3.1.3.2. should read paragraph 3.1.3.4.

13. The expert from Germany introduced document TRANS/WP.29/GRRF/2001/1 which contained a proposal for amending Regulation No. 13-H in order to eliminate a discrepancy with Regulation No. 13. GRRF adopted the proposal as reproduced in annex 3 of this report. Nevertheless, the expert from Japan introduced a scrutiny reservation.

14. GRRF agreed to transmit the above-mentioned proposal to WP.29 and AC.1 for consideration at their June 2001 session, but under the condition of the acceptance of it by the expert from Japan. It was also agreed that, in the negative case, the proposal would come back to GRRF for further detailed consideration.

15. The expert from CLEPA introduced document TRANS/WP.29/GRRF/2001/3 containing draft Corrigendum 1 to Supplement 5 to the 09 series of amendments to Regulation No. 13. GRRF adopted the Corrigendum with the amendments reproduced below, and agreed to transmit it to WP.29 and AC.1 for consideration at their June 2001 sessions.

Paragraph 5.1.3.6., correct the reference to "ISO 7368", to read "ISO 7638"

Annex 11, Appendix 3, paragraph 2.3.1., delete the reference to "paragraph 3.6.1."

Annex 16, paragraph 3., the table, the third row, first column, delete the proposed amendment (original text in Supplement 5 to the 05 series of amendments retained).

16. GRRF considered and adopted a proposal transmitted by the expert from Germany for amending Regulation No. 13, that clarified the priority of the information concerning the braking system through ISO 7638 (TRANS/WP.29/GRRF/2001/6, amended as reproduced in annex 2 to this report).

It was also agreed to transmit this proposal to WP.29 and AC.1 for consideration at their June 2001 sessions.

17. The expert from the Russian Federation introduced informal document No. 22 amending Regulation No. 13. In order to allow a more detailed consideration of the proposal, the secretariat was requested to distribute this informal document with an official symbol at the September session.

(b) Modular type approval for trailers

Documentation: TRANS/WP.29/GRRF/2000/20; informal document No. 1 of annex 1 to this report.

18. GRRF noted that informal document No. 1 was identical to document TRANS/WP.29/GRRF/2000/20 but marking the amendments to the previous version of the proposal. It was clarified that this proposal was prepared for simplification of the type approval procedure and not for the individual approval of single vehicles.

19. The expert from the European Community informed GRRF that a meeting with trailer manufacturers had taken place in Brussels, and it had been agreed that a technical proposal for the type approval of single vehicles should be transmitted to GRRF for consideration.

20. Regarding the proposal, the experts expressed their concerns regarding some prescriptions, among those the braking rate (para. 4.5.2.9.), the validation of the technical service's reports, and the question of double signature of the Communication form. The expert from Spain agreed to supply a sample letter that could be signed by both parties. The expert from OICA requested to include in the report of the session that the technical service's report for a module in accordance with annex 19 could be used in a regular type approval.

21. GRRF confirmed general support for the proposal and, after consideration of the pending issues, recommended its adoption to WP.29 and AC.1. Experts were kindly requested to communicate to the expert from CLEPA any editorial amendments in order to allow him to send to the secretariat an updated proposal before the GRRF September 2001 session.

(c) Facilitation of testing of vehicles in service

Documentation: TRANS/WP.29/GRRF/2001/2; informal documents Nos. 4, 21 and 24 of annex 1 to this report.

22. The expert from Germany introduced document TRANS/WP.29/GRRF/2001/2 containing the proposal which had been agreed in the informal group considering periodical technical inspections. He also introduced informal document No. 4, which contained complementary amendments to the proposal made during the informal group meeting. In addition, he introduced informal document No. 24, which contained complementary justification to informal document No. 4.

23. The expert from OICA introduced informal document No. 21 with comments to both document TRANS/WP.29/GRRF/2001/2 and informal document No. 4. It

proposed an alternative wording for the proposal of informal document No. 4.

24. In order to facilitate the consideration of the proposals, GRRF requested the secretariat to distribute informal document No. 4 (including the alternative wording of informal document No. 21) with an official number for consideration at the September session. Nevertheless, the Chairman of the informal group suggested the possibility of having a new meeting of the informal group to consider the pending issues, if necessary.

(d) Provisions for electric vehicles

Documentation: TRANS/WP.29/GRRF/2000/12 and Add.1; TRANS/WP.29/GRRF/2000/13 and Add.1; informal documents Nos. 5 and 11 of the forty-eighth session.

25. For Regulation No. 13, GRRF considered and adopted the proposal of documents TRANS/WP.29/GRRF/2000/12 and Add.1, with the amendments reproduced in annex 2 to this report. It was agreed to transmit the proposal for consideration to WP.29 and AC.1 at their June 2001 sessions.

26. For Regulation No. 13-H, the parallel proposal (TRANS/WP.29/GRRF/2000/13 and Add.1) was also adopted with the amendments reproduced in annex 3 to this report. GRRF also agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2001 sessions.

27. Due to the lack of time, GRRF agreed to continue consideration of informal documents Nos. 5 and 11 of the forty-eighth session at its September 2001 session.

(e) Illumination of stop lamps

Documentation: TRANS/WP.29/GRE/1999/17; informal documents Nos. 13, 17 and 18 of annex 1 to this report.

28. The Chairman reported that WP.29 had confirmed that GRRF was responsible for defining the conditions under which stop lamps should be illuminated and that GRE was responsible for their position, number and photometry characteristics.

29. The expert from Japan introduced informal document No. 13 in which he explained the situation in his country. He said that, for both deceleration purposes and for the retarder implying considerable deceleration, stop lamps should be activated. He stressed that the limit above which the stop lamps should be activated should be considered carefully, but recalled that his country applied a value of 2.2 m/s^2 . He said that for selective braking (e.g. vehicle stability control), the activation of stop lamps should not be required.

30. The expert from the United States of America presented informal documents Nos. 17 and 18 which contained legal interpretation from the National Highway Traffic Safety Administration about the use of stop lamps. He confirmed the legal situation in his country which prescribed that when the braking system was used to stop a vehicle or to dismiss speed, the stop lamp must be activated, and that for other purposes the stop lamps need not be

activated. Nevertheless, he explained to GRRF that his country was considering to authorize the stop lamp illumination at deceleration values greater than 0.7 m/s^2 only.

31. The expert from OICA said that the current definition of stop lamps in Regulation No. 48 was obsolete, because it should consider the possibility of its actuation not only by application of the service braking system by the driver but also for another braking actions, not initiated by the driver. Concerning the illumination of the stop lamps, he considered that the best solution could be to determine when the stop lamps must be activated and when they might be activated.

32. GRRF considered it difficult to establish a deceleration limit for the activation of the stop lamps. Some experts also expressed their concerns about taking a too liberal solution, which can imply misunderstanding by other drivers.

33. GRRF invited the experts from OICA to prepare a proposal establishing a basis for consideration of this issue.

(e) Braking compatibility of heavy goods vehicles

Documentation: Informal document No. 2 of annex 1 to this report.

34. The expert from the United Kingdom presented informal document No. 2, which contained a final report on braking compatibility of heavy goods vehicles. He invited all the experts to collaborate in this matter.

35. Several experts expressed their interest and suggested that an informal working group could consider it and would report to GRRF. The expert from the United Kingdom offered to organize such an informal meeting and suggested May 2001 as a possible date.

Note by the secretariat: Post GRRF discussions, it was suggested a meeting in July after the German Industry meeting in May and the OICA meeting in July.

REGULATION No. 78 (Motorcycle braking)

Documentation: TRANS/WP.29/GRRF/2000/25; informal document No. 25 of annex 1 to this report.

36. The expert from IMMA made a presentation comparing the requirements of Regulation No. 78 and FMVSS No. 122 as a base study for elaborating a draft global technical regulation. He offered copies of his presentation to the experts interested.

37. He announced that the study should continue and envisaged that in May 2001 all data would be considered, in June 2001 the high speed test would be reviewed and in September 2001 he would prepare a technical outline for consideration by GRRF at its fiftieth session.

38. The expert from Japan pointed out that the legislation on motorcycle braking in his country was based on Regulation No. 78, and that experts could consider that the data from that Regulation could be also applied to the

Japanese legislation. The expert from the United States of America declared that motorcycle braking was one of his Government priorities, and commented that testing separately front and rear brakes could be a good idea to take into account when elaborating the global technical regulation.

39. GRRF acknowledged the work done and agreed on further consideration at its September 2001 session with new data from the experts from the United States of America and IMMA. Other experts were also invited to cooperate.

40. The expert from the United Kingdom introduced document TRANS/WP.29/GRRF/2000/25 and informal document No. 25, which contained minor corrections. GRRF noted that the corrections referring to the reference to "paragraph 1.4.1.3." should read "paragraph 1.4.1." and that in paragraph 2.1.1. the references to categories "L₃, L₄ and L₅" should read "L₃ and L₄". GRRF agreed to consider the proposal, as amended at its September session.

41. The expert from the United Kingdom raised the question of the use of asbestos in motorcycle brake pads and linings. He said that the corresponding European Community Directive 93/14/EEC did not explicitly ban the use of asbestos neither did it include provisions for the approval of replacement brake lining assemblies as separate technical units. He said that in these two additional areas the European Community wished to make amendments. He requested GRRF to act promptly to adopt the proposed amendments so that the European Community could amend the Directive accordingly.

42. GRRF thanked the expert from Italy for the historic information concerning motorcycle braking, presented to GRRF at its forty-eighth session (informal document No. 14 of that session).

REGULATION No. 111 (Handling and stability of vehicles)

Documentation: TRANS/WP.29/GRRF/2000/19; informal documents Nos. 16, 19 and 23 of annex 1 to this report.

43. The expert from the Russian Federation introduced informal documents Nos. 16 and 23. He stated that his country supported Regulation No. 111 concerning static stability, but disagreed on the dynamic tests and simulation procedure proposed in document TRANS/WP.29/GRRF/2000/19. In particular, he criticized the short duration of the dynamic test, the fact that it resulted in a lateral lane shift of only around 0.6m and that the driver would be unable to turn the steering wheel quickly enough to carry out the test. There were also implications regarding the high level of measuring equipment required.

44. He suggested separation of static and dynamic stability into two different sets of rules and, based on the extensive experience of his country in stability, proposed different limits for M, N and O categories of vehicles. He announced the transmission of an official proposal concerning static stability with different value limits for the different categories of vehicles. He also said that in informal document No. 23 experts could find a concrete proposal for dynamic lateral stability test procedure, based on his country's practical experience.

45. The expert from the Netherlands explained to GRRF that the proposal contained in document TRANS/WP.29/GRRF/2000/19 had been transmitted to GRRF as the result of the work of the informal group. He reminded GRRF that the approach chosen was based on simple and repeatable tests, always with the aim of encouraging manufacturers to develop better vehicles.

46. The expert from OICA reaffirmed that manufacturers were developing active stability systems based on the braking system actuation, which could assure much better vehicle stability. He also said that ISO was working on this new concept and offered to report to GRRF on ISO activities. He reminded GRRF that WP.15 had done a cost benefit analysis when it had problems of stability for ADR vehicles. As a result of that analysis, WP.15 had decided to apply the Regulation on stability only to ADR tank vehicles transporting flammable liquids.

47. To address the issue of the stability of vehicle combinations, the expert from the United Kingdom supported the concept of a simulation test, suitably verified, and suggested that both dynamic test and simulation should be included in the Regulation.

48. GRRF noted that Regulation No. 111 had been in force for a few months only for ADR tank vehicles. It was agreed that, after more time in use, implementation of the Regulation could be monitored by GRRF, if needed. For that purpose the ideas presented by the expert from the Russian Federation (see paras. 43 and 44 above) were welcomed.

49. The expert from Japan presented informal document No. 19, which contained a schedule to carry out a three-year research and study project for the prevention of heavy vehicles rollover accidents. GRRF thanked the expert from Japan and declared interest in receiving further information on the research.

50. The Chairman said that he would report to WP.29 on the work of GRRF on this issue and suggested continuing consideration on the development of the Regulation at the September session. Experts were requested to bring their copies of informal documents Nos. 16 and 23 for this purpose.

REGULATION No. 79 (Steering equipment)

Documentation: Informal document No. 15 of annex 1 to this report.

51. The expert from Germany presented the state of the work of the informal group after its second meeting, held in Germany on 11 and 12 October 2000. He said that the intermediate stage was included in informal document No. 15 and could also be consulted in the following website: www.tuevs.com.

52. He informed GRRF that the main developments were related to the full power steering equipment test provisions, failure modes, amendments to annex 5 to include the new systems, and a new annex 6 on complex electronic vehicle control systems. He emphasized that there had to be consideration of the protocol for steering information data transmission in ISO 11992 and that there were strong feelings regarding Periodic Technical Inspection issues. Finally, he announced that the next meeting of the informal meeting would be

held in Munich on 14 and 15 February 2002.

53. GRRF thanked the Chairman of the informal group for the work done, and expressed its hope that a concrete proposal would soon be available for consideration.

REGULATION No. 89 (Speed limitation devices)

Documentation: TRANS/WP.29/GRRF/2000/26/Rev.1.

54. The expert from France presented the proposal of document TRANS/WP.29/GRRF/2000/26/Rev.1 as a compromise reached by the informal group.

55. The expert from OICA expressed his concerns about the possible restriction to the design of devices controlling the speed, if the Regulation would include mandatory prescriptions for such devices for M1 category of vehicles. He said that it was difficult to understand that a comfort device for M1 category vehicles could be mandatory.

56. The expert from the European Community informed GRRF that the European Community had considered this issue. She said that the result of the discussion was to request GRRF to elaborate a technical proposal and get it considered at a political level.

57. Under these conditions, GRRF considered and adopted the proposal of document TRANS/WP.29/GRRF/2000/26/Rev.1 with the amendments reproduced in annex 4 to this report. It was also agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2001 sessions.

58. The expert from Germany expressed his concerns about the possibility that a new and untried system such as a driver-set speed limiter might become mandatory for M1 and N1 category vehicles in Europe. In his opinion, this concern was supported by the lack of study results that might justify the proposed changes to Regulation No. 89. He said that Germany did not oppose new techniques improving road safety. In this context, he recalled that current anti-lock systems were the result of long studies, and Regulation No. 13 was adapted accordingly. He stressed that there had been no mandatory requirement for ABS systems on passenger cars, and they had become common on the European market, representing a significant advance in road safety. He finally stated that GRRF in his view had made too large a step in accepting the inclusion of adjustable speed-limiting devices in Regulation No. 89. These devices, in Germany's view were simply comfort devices, and should not be elevated to a level of importance superior to anti-lock systems.

TYRES

(a) Global harmonization of tyre regulations

Documentation: TRANS/WP.29/GRRF/1999/7; informal documents Nos. 7, 8 and 9 of annex 1 to this report.

59. The expert from the United Kingdom presented informal documents Nos. 7 and 8, which contained the minutes of the meetings of the informal group in the Netherlands and in London. He also presented informal document No. 9, which contained the present text of the proposal for a draft global technical regulation on tyres which was still under discussion and would be reported on at the September 2001 session of GRRF. He also said that another meeting of the informal group would take place in Canada in June 2001.

60. The expert from the United States of America briefed GRRF about the situation in his country (TRANS/WP.29/GRRF/48, paras. 58 to 60) and outlined the dates for various changes proposed for tyre regulations, including the introduction of tyre pressure monitoring systems. Generally the United States of America would be seeking to upgrade some tyre test schedules such as the high speed and endurance tests and the bead-unseating test. In addition it would wish to see consideration of a road hazard impact test (similar to SAE J 1981) and the application of an accelerated environmental test involving ageing, ultraviolet, ozone and load and temperature cycling.

61. He explained that in May 2001 a Notice of Proposed Rulemaking should be published for comments, which could be subject to amendments. GRRF agreed that the informal group should consider the draft FMVSS Rule at its June 2001 meeting. Concerning document TRANS/WP.29/GRRF/1999/7 it was noted that it had been superseded by informal document No. 9.

62. The Chairman commented on the difficulty of reconciling a global technical regulation (gtr) with the situation in the United States of America and that GRRF should not lose sight of the objective of a gtr. He also reminded experts that the requirements regarding cost benefit analysis of any proposed changes in regulations were incorporated into the Global Agreement at the specific request of the United States of America.

(b) Tyre adhesion test

Documentation: TRANS/WP.29/GRRF/1998/2; TRANS/WP.29/GRRF/1998/3; informal documents Nos. 7, 8 and 14 of annex 1 to this report.

63. The expert from the United Kingdom reminded GRRF that informal documents Nos. 7 and 8 contained the reports of the two last meetings of the informal group (see para. 59 above), where a significant progress had been made. He also informed GRRF that the European Commission, the Council of Ministers and the European Parliament were considering the European Community Directive on tyre to road noise, which included a commitment for tyre grip, and that in the September session of GRRF the results of that consideration should be available. The help and cooperation of industry and ISO was acknowledged but the ISO group was at present only considering a test procedure for grip of car tyres and urgent consideration of truck tyres was

essential.

64. The expert from Japan introduced informal document No. 14. GRRF considered it appropriate and agreed to transmit it for consideration to the informal group. GRRF also noted that documents TRANS/WP.29/GRRF/1998/2 and 1998/3 had become obsolete and were superseded by the work of the informal group.

(c) Regulation No. 30 (Pneumatic tyres)

Documentation: TRANS/WP.29/GRRF/2001/4; informal documents Nos. 10 and 12 of annex 1 to this report.

65. GRRF considered and adopted document TRANS/WP.29/GRRF/2001/4, amended by informal document No. 10, and reproduced below. It was also agreed to transmit it to WP.29 and AC.1 for consideration at their June 2001 sessions as a proposal for draft Supplement 12 to the 02 series of amendments to Regulation No. 30.

Insert new paragraphs 3.1.11. and 3.1.11.1., to read:

"3.1.11. In the case of temporary use spare tyres, the words "TEMPORARY USE ONLY" in upper case characters at least 12.7 mm high.

3.1.11.1. In addition, in the case of "T" type temporary use spare tyres, the legend "INFLATE TO 420 kPa (60 psi)" in upper and lower case characters as shown and at least 12.7 mm high."

Annex 7, paragraph 1.2., the table, add for "Speed category" "L, M and N" the value "2.4" in the column "Radial tyres Standard", and the value "2.8" in the column "Radial tyres Reinforced".

66. The expert from the United Kingdom introduced informal document No. 12, which contained a proposal concerning the marking of service descriptions on high-speed tyres. To allow more detailed consideration of the proposal, the secretariat was requested to distribute informal document No. 12 with an official symbol for consideration at the September 2001 session.

(d) Regulation No. 54 (Pneumatic tyres for commercial vehicles)

Documentation: TRANS/WP.29/GRRF/2001/5; informal document No. 11 of annex 1 to this report.

67. GRRF considered and adopted document TRANS/WP.29/GRRF/2001/5, modified by informal document No. 11 and reproduced below. It also agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2001 session as a draft Supplement 14 to Regulation No. 54.

Paragraph 2.1.3., amend to read:

"2.1.3. Category of use;"

Insert new paragraphs 2.2. to 2.2.3., to read:

"2.2. Category of use:

2.2.1. "Normal tyre" means a tyre intended for normal, everyday, on road use;

2.2.2. "Special use tyre" means a tyre intended for mixed use both on- and off-road or for other special duty.

2.2.3. "Snow tyre" means a tyre whose tread pattern, tread compound or structure are primarily designed to achieve in snow conditions a performance better than that of a normal tyre with regard to its ability to initiate or maintain vehicle motion."

Insert a new paragraph 3.1.12., and its corresponding footnote */ , to read:

"3.1.12 The inscription "ET" or "ML" or "MPT" for "Special use tyres" */

*/ This marking shall only be mandatory for tyre types approved to this Regulation after the entry into force of Supplement 14 to the Regulation.

Annex 7,

Paragraph 3., amend to read:

"3. Load/speed test program for tyre with a load capacity index 121, or the additional marking "LT" included in the tyre size designation, and load capacity index above 121 and a speed category 0 and above"

Annex 7, appendix 1, note (2), amend to read:

"(2) Tyres with load index 121 or more, speed categories N or P and the additional marking "LT" included in the tyre size designation, shall be tested with the same program as specified in the above table for tyres with load index 121 or less."

(e) Regulation No. 108 (Retreated pneumatic tyres)

Documentation: TRANS/WP.29/GRRF/2000/23.

68. GRRF noted that no new proposal had been received from BIPAVÉR. Consequently, it was agreed to suspend the consideration until a new proposal was available.

(f) Regulation No. 109 (Retreated pneumatic tyres for commercial vehicles)

Documentation: TRANS/WP.29/GRRF/2000/24; informal document 11 of annex 1 to this report.

69. GRRF took the same position as for Regulation No. 108 (see paragraph 68 above).

70. Informal document No. 11 was considered and adopted, as reproduced below. GRRF agreed to transmit the adopted text for consideration to WP.29 and AC.1 as a proposal for draft Supplement 1 to the Regulation, to be considered at their June 2001 sessions.

Insert a new paragraph 3.2.12. and its corresponding footnote, 7/, to read:

"3.12.2. The inscription "ET" or "ML" or "MPT" for "Special use tyres" 7/.

7/ This marking shall only be mandatory for tyre types approved to this Regulation after the entry date into force of Supplement 1 to the Regulation."

Paragraph 5.8.1., footnote 7/ (former), renumber as footnote 8/ and amend to read:

"8/ 32 for Latvia, 33 (vacant), 34 for Bulgaria, 35-36 (vacant), 37 for Turkey ..., 43 for Japan, 44 (vacant), 45 for Australia, and 46 for Ukraine. Subsequent numbers"

(g) Regulation No. 106 (Agricultural tyres)

Documentation: Informal document No. 6 of annex 1 to this report.

71. The expert from ETRTO introduced informal document No. 6 containing a proposal to add a new range of implement tyres. The secretariat was requested to distribute it with an official symbol for consideration at the next GRRF session.

OTHER BUSINESS

(a) Proposal for a draft Regulation on wheels

Documentation: TRANS/WP.29/GRRF/1998/19/Rev.2

72. The expert from Italy presented the document updating his previous proposal. Unfortunately most delegates had not been able to consider this document in detail, as they were unaware of its existence.

73. The expert from Japan objected to the proposal and suggested that another meeting of the informal group was necessary to consider the proposal which he had tabled at the forty-eighth session (TRANS/WP.29/GRRF/48, para. 81). He explained to GRRF that he had tried to participate in the informal group meeting, but did not succeed.

74. The experts from the United Kingdom and Sweden proposed that the draft should be re-examined in order to correct some mistakes. They also had reservations concerning the principle of Part II of the draft.

75. GRRF agreed to resume the consideration in its September session and take into account any amendments which by that time were received from the informal group. Italy offered to host the meeting of the informal group.

(b) Proposal for a new draft global technical regulation on replacement brake linings

Documentation: TRANS/WP.29/GRRF/1999/18.

76. The expert from FEMFM explained to GRRF that his organization had been working on elaborating new procedures for braking linings. He announced that a proposal for amending Regulation No. 90 would be transmitted for consideration by GRRF at the September 2001 session.

77. GRRF agreed to consider such a proposal in the perspective of any interest in elaborating a global technical regulation.

(c) Harmonization of motorcycle braking requirements

78. GRRF noted that this item had been considered jointly with Regulation No. 78 (see paras. 36 to 39 above).

(d) Adaptive cruise control systems (ACC)

Documentation: TRANS/WP.29/GRRF/1999/24.

79. The Chairman informed GRRF that he had reported to WP.29 on ACC systems and said that WP.29 supported the idea that these systems should be considered in applicable Regulations following the precedent set in the new annex 19 to Regulation No. 13. GRRF agreed that until there was further development of ACC systems its interaction with prescriptions of Regulation No. 13 was sufficiently covered by new annex 19.

Tribute to Mr. Macak and Ms. Larsson

80. The Chairman informed GRRF that a letter had been received from Mr. Macak (Czech Republic) in which he reported that his new responsibilities in the tyre industry would prevent him from continuing his participation in GRRF, where he had been active for the last eighteen years. Ms. Larsson informed GRRF that her contract with the European Commission was expiring and she would no longer represent the Commission in the GRRF sessions. GRRF thanked Mr. Macak and Ms. Larsson for their collaboration and wished both of them success in their new duties.

AGENDA FOR THE NEXT SESSION

81. The following agenda was agreed for the fiftieth session of GRRF (Geneva, from 10 (9.30h) to 12 (17.30h) September 2001) 1/:

1. Regulation Nos. 13 and 13-H (Braking)
 - 1.1. Further development
 - 1.2. Modular type approvals for trailers
 - 1.3. Facilitation of testing of vehicles in-service
 - 1.4. Provisions for electronic vehicles
 - 1.5. Illumination of stop lamps
 - 1.6. Braking Compatibility of heavy goods vehicles
2. Regulation No. 78 (Motorcycle braking)
 - 2.1. Further development
 - 2.2. Harmonization of motorcycle braking requirements
3. Regulation No. 90
 - 3.1. Further development
 - 3.2. Proposal for a draft global technical regulation on replacement brake linings
4. Regulation No. 111 (Handling and stability of vehicles)
Further development
5. Regulation No. 79 (Steering equipment)
Further development
6. Tyres 2/
 - 6.1. Global harmonization of tyre regulations
 - 6.2. Tyre adhesion test
 - 6.3. Regulation No. 30 (Pneumatic tyres)
 - 6.4. Regulation No. 54 (Pneumatic tyres for commercial vehicles)

7. OTHER BUSINESS

7.1. Proposal for draft Regulation on wheels

1/ As part of the secretariat's efforts to reduce expenditure, all the official documents distributed prior to the session by mail will not be available in the conference room for distribution to session participants. Delegates are kindly requested to bring their copies of documents to the meeting.

2/ This item will not be considered earlier than Wednesday 12 September 2001. The GRRF session is to be followed by the thirty-fifth session of the Working Party on Noise (GRB), where the questions of tyre-road noise shall be considered on Thursday, 13 September 2001, to allow the participation of tyre experts.

Annex 1

LIST OF INFORMAL DOCUMENTS DISTRIBUTED WITHOUT A SYMBOL DURING THE SESSION

No.	Transmitted By	Agenda item	Language	Title
1.	CLEPA	1.2.	E	Proposal for draft amendment to Regulation No. 13 (Braking)
2.	United Kingdom	1.6.	E	Compatibility of heavy vehicles combinations. Final Report
3.	Chairman		E	Draft order of business for the 49th GRRF session
4.	Germany	1.3.	E	Proposal for draft amendments to Regulation No. 13
5.	CLEPA	1.1.	E	Amendment proposed to Regulation No. 13
6.	ETRTO	6.7.	E	Amendments to Regulation No. 106 (Agricultural tyres)
7.	United Kingdom	6.1., 6.2.	E	Minutes of the fourth meeting of UN ECE, GRRF ad-hoc Group on Global Harmonization of Tyre Regulations and Tyre-Grip, held in Zoetermeer, the Netherlands, 6/7/8 September 2000
8.	United Kingdom	6.1, 6.2.	E	Unconfirmed minutes of the fifth meeting of UN ECE, GRRF ad-hoc Group on Global Harmonization of Tyre Regulations and Tyre-Grip, held in London 4/5/6 December 2000
9.	United Kingdom	6.1.	E	Global Harmonization of Tyre Regulations
10.	United Kingdom	6.3.	E	Submission from the United Kingdom regarding supplementary amendments to those contained in document TRANS/WP.29/GRRF/2001/4
11.	United Kingdom	6.4.	E	Submission from the United Kingdom regarding amendments to proposals in document TRANS/WP.29/GRRF/2001/5

No.	Transmitted by	Agenda Item	Agenda Item	Title
12.	United Kingdom	6.3.	E	Submission from the United Kingdom concerning the marking of Service Descriptions on high speed tyres
13.	Japan	1.5.	E	Japanese comments concerning the illumination of stop lamps
14.	Japan	6.2.	F	Reference data for Wet Measurement
15.	Germany	4.	E	Summary of draft amendments to ECE Regulation No. 79
16.	Russian Federation	3.	E	Proposals of the Russian Federation concerning the draft ECE Regulation "Uniform Provisions Concerning the Approval of Tank Vehicles of Categories N and O with regard to Rollover Stability" (Documents TRANS/WP.29/705 and TRANS/WP.29/GRRF/2000/19)
17.	United States of America	1.5.	E	Interpretation by NHTSA of FMVSS No. 108 concerning the activation of stop lamps
18.	United States of America	1.5.	E	Interpretation by NHTSA of FMVSS No. 108 concerning the activation of stop lamps
19.	Japan	3.	E	Research and Study Project of Rollover Accident Prevention in Japan
20.	OICA	1.1.	E	Possible revision to the text TRANS/WP.29/GRRF/2000/5/Rev.1
21.	OICA	1.3.	E	Industry Statement relating the proposals concerning periodic technical inspections
22.	Russian Federation	1.1.	E	Proposals for amendments to Regulation No. 13, Revision 3 - Amendment 2 of 3 February 1998

No.	Transmitted by	Agenda item	Agenda Item	Title
23.	Russian Federation	3.	E	Proposal of the Russian Party concerning annex 5 of the draft Regulation: "Uniform provisions concerning the approval of tank vehicles of categories N and O with regard to roll-over stability"
24.	Germany	1.3.	E	Proposal for draft amendments to Regulation 13
25	United Kingdom	2.	E	Proposal for draft amendments to Regulation No. 78
-	IMMA	2.	E	Motorcycle braking gtr: Progress report to 49/GRRF
-	Netherlands	-	E	Esv 17th International Technical Conference on the Enhanced Safety of Vehicles
-	United States of America	6.	E	Tread Act. Transportation Recall Enhancement, Accountability, and Documentation Act H.R. 5164

Annex 2

AMENDMENTS TO REGULATION No. 13 ADOPTED BY GRRF
AT ITS FORTY-NINTH SESSION

Insert a new paragraph 2.14., to read (3):

"2.14. "Phased braking" to be brought into operation."

Paragraph 5.1.3.6., amend to read: (4)

".... not delay the braking functions: the power supply, provided by the ISO 7638 connector, shall be used exclusively for braking and running gear functions and that required for the transfer of trailer related information not transmitted by the electric control line, however, in all cases the provisions of paragraph 5.2.2.18. of this Regulation shall apply. The power supply for all other functions shall use other measures."

Paragraph 5.2.2.14., amend to read (1):

"5.2.2.14. Where the auxiliary equipment is supplied with energy from the service braking system, the service braking system shall be protected to ensure that the sum of the braking forces exerted at the periphery of the wheels shall be at least 80 per cent of the value prescribed for the relevant trailer as defined in paragraph 3.1.2.1. of annex 4 to this Regulation. This requirement shall be fulfilled under both of the following operating conditions:

During operation of the auxiliary equipment; and

In the event of breakage or leakage from the auxiliary equipment, unless such breakage or leakage affects the control signal referred to in paragraph 6. to annex 10 to this Regulation, in which case the performance requirements of that paragraph shall apply."

Paragraph 5.2.2.14.1., amend to read (1):

"5.2.2.14.1. The above provisions are deemed to be fulfilled when the pressure in the service brake storage device(s) is maintained at a pressure of at least 80 per cent of the control line demand pressure or equivalent digital demand as defined in paragraph 3.1.2.2. of annex 4 to this Regulation."

Annex 4,

Paragraph 1.4.1.2.2., amend by the addition of a new footnote 3/ to read (3):

" in annex 2 of this Regulation

In the case of a vehicle equipped with an electric regenerative braking system, the requirements depend on the category of this system:

Category A. Any separate electric regenerative braking control which is provided, shall not be used during the Type-0 tests.

Category B. The contribution of the electric regenerative braking system to the braking force generated shall not exceed that minimum level guaranteed by the system design.

This requirement is deemed to be satisfied if the batteries are at one of the following state of charge conditions where state of charge 3/ is determined by the method set out in appendix 1 to this annex:

at the maximum charge level as recommended by the manufacturer in the vehicle specification, or

at a level not less than 95 per cent of the full charge level, where the manufacturer has made no specific recommendation, or

at the maximum level which results from automatic charge control on the vehicle."

3/ By agreement with the technical service, state of charge assessment will not be required for vehicles, which have an on-board energy source for charging the traction batteries and the means for regulating their state of charge.

Paragraph 1.5.1.6., amend to read (3):

"1.5.1.6. For vehicles not having sufficient autonomy to carry out the cycles of heating of the brakes, the tests shall be carried out by achieving the prescribed speed before the first braking application and thereafter by using the maximum acceleration available to regain speed and then braking successively at the speed reached at the end of each time cycle duration as specified, for the appropriate vehicle category, in paragraph 1.5.1.1. above."

Paragraph 1.5.3.1.3., amend the reference to "paragraph 1.4.3.2." to read paragraph "1.4.2."(3)

Insert a new appendix 1 to annex 4, to read (3):

"Annex 4 - Appendix 1

PROCEDURE FOR MONITORING THE STATE OF BATTERY CHARGE.

This procedure is applicable to vehicle batteries used for traction and regenerative braking.

The procedure requires the use of a bi-directional DC Watt-hour meter.

1. Procedure.
 - 1.1. If the batteries are new or have been subject to extended storage, they shall be cycled as recommended by the manufacturer. A minimum 8 hour soak period at ambient temperature shall be allowed after completion of cycling.
 - 1.2. A full charge shall be established using the manufacturer's recommended charging procedure.
 - 1.3. When the braking tests of paragraphs 1.2.11., 1.4.1.2.2., 1.5.1.6., and 1.5.3.1.3. of annex 4 are conducted, the watt-hours consumed by the traction motors and supplied by the regenerative braking system shall be recorded as a running total which shall then be used to determine the state of charge existing at the beginning or end of a particular test.
 - 1.4. To replicate a level of state of charge in the batteries for comparative tests, such as those of paragraph 1.5.3.1.3., the batteries shall be either recharged to that level or charged to above that level and discharged into a fixed load at approximately constant power until the required state of charge is reached. Alternatively, for vehicles with battery powered electric traction only, the state of charge may be adjusted by running the vehicle. Tests conducted with a battery partially charged at their start shall be commenced as soon as possible after the desired state of charge has been reached."

Annex 13,

Paragraphs 4.1.1. and 4.1.2., including its corresponding footnote 15/, amend to read (2):

- "4.1.1. Sensor anomalies, which cannot be detected under static conditions, shall be detected not later than when the vehicle speed exceeds 10 km/h 15/. However, to prevent erroneous fault indication when a sensor is not generating a vehicle speed output, due to non-rotation of a wheel, verification may be

delayed but detected not later than when the vehicle speed exceeds 15 km/h.

15/ The warning signal may light up again while the vehicle is stationary, provided that it is extinguished before the vehicle speed reaches 10 km/h or 15 km/h, as appropriate, when no defect is present.

4.1.2. When the anti-lock braking system is energized with the vehicle stationary, electrically controlled pneumatic modulator valve(s) shall cycle at least once"

Paragraph 5.2.5., amend by the addition of a new footnote 16/ to read (3):

"5.2.5. The condition $\dot{a} \geq 0.75$ shall be checked with the vehicle both laden and unladen 16/. The laden test

16/ Until a uniform test procedure is established, the tests required by this paragraph may have to be repeated for vehicles equipped with electrical regenerative braking systems, in order to determine the effect of different braking distribution values provided by automatic functions on the vehicle."

Paragraph 5.3.7., amend by the addition of a reference to the new footnote 16/, to read:

"5.3.7. During the tests provided and during these tests no part of the (outer) tyres must cross this boundary 16/."

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- (1) Refers to document TRANS/WP.29/GRRF/2000/9, and informal document No. 5
 - (2) Refers to document TRANS/WP.29/GRRF/2000/5/Rev.1
 - (3) Amendments to documents TRANS/WP.29/GRRF/2000/12 and Add.1
 - (4) Refers to document TRANS/WP.29/GRRF/2001/6
-

Annex 3

AMENDMENTS TO REGULATION No. 13-H ADOPTED BY GRRF
AT ITS FORTY-NINTH SESSION

Insert new paragraph 2.18., to read: (1)

"2.18. "Phased braking" to be brought into operation."

Paragraph 5.2.2.4., amend to read: (2)

 "... the vehicle is in motion. This requirement may be met by the
actuation of the vehicle's service braking system by means of an
auxiliary control."

Paragraph 5.2.8., the reference to footnote 3/ and footnote 3/ (former),
renumber as footnote 4/ (1)

Insert a new paragraph 5.2.1.8.6., including its corresponding footnote 5/, to
read: (1)

"5.2.18.6. The State of Charge of the traction batteries is determined by the
method set out in appendix 1 of annex 3 to this Regulation. 5/

5/ By agreement with the technical service, state of charge assessment will not
be required for vehicles, which have an on-board energy source for charging the
traction batteries and the means for regulating their state of charge."

Paragraph 5.2.20.3., the reference to footnote 5/ and footnote 5/ (former),
renumber as footnote 6/ (1)

Annex 3,

Paragraph 1.5.2.4., amend to read: (1)

 " the speed specified in paragraph 2.2.1. (A) of this
annex

 "

Paragraph 2.2.4.1., amend to read: (1)

"2.2.4.1. For a total"

Insert a new appendix 1 to annex 3, to read: (1)

"Annex 3 - Appendix 1

PROCEDURE FOR MONITORING THE STATE OF BATTERY CHARGE.

This procedure is applicable to vehicle batteries used for traction and regenerative braking.

The procedure requires the use of a bi-directional DC Watt-hour meter.

1. Procedure.
 - 1.1. If the batteries are new or have been subject to extended storage, they shall be cycled as recommended by the manufacturer. A minimum 8 hour soak period at ambient temperature shall be allowed after completion of cycling.
 - 1.2. A full charge shall be established using the manufacturer's recommended charging procedure.
 - 1.3. When the braking tests of paragraphs 1.2.11., 1.4.1.2.3., 1.5.1.6., 1.5.1.7. and 1.5.2.4. of annex 3 are conducted the watt-hours consumed by the traction motors and supplied by the regenerative braking system shall be recorded as a running total which shall then be used to determine the state of charge existing at the beginning or end of a particular test.
 - 1.4. To replicate a level of state of charge in the batteries for comparative tests, such as those of paragraph 1.5.2.4., the batteries shall be either recharged to that level or charged to above that level and discharged into a fixed load at approximately constant power until the required state of charge is reached. Alternatively, for vehicles with battery powered electric traction only, the state of charge may be adjusted by running the vehicle. Tests conducted with a battery partially charged at their start shall be commenced as soon as possible after the desired state of charge has been reached.

_____ "

Annex 6,

Paragraph 4.1.1., including its corresponding footnote 3/, amend to read: (3)

- "4.1.1. Sensor anomalies, which cannot be deleted under static conditions, shall be detected not later than when the vehicle speed exceeds 10 km/h 3/. However, to prevent erroneous fault indication when a sensor is not generating a vehicle speed output, due to non-rotation of a wheel, verification may be

delayed but detected not later than when the vehicle speed exceeds 15 km/h.

3/ The warning signal may light up again while the vehicle is stationary, provided that it is extinguished before the vehicle speed reaches 10 km/h or 15 km/h, as appropriate, when no defect is present."

Paragraph 4.1.2., amend to read: (3)

"4.1.2. When the anti-lock braking system is energized with the vehicle stationary, electrically controlled pneumatic modulator valve(s) shall cycle at least once."

Paragraph 4.1.3., should be deleted. (3)

(1) Amendments to documents TRANS/WP.29/GRRF/2000/13 and Add.1

(2) Refers to document TRANS/WP.29/GRRF/2001/1

(3) Refers to document TRANS/WP.29/GRRF/2000/16

Annex 4

AMENDMENTS TO DOCUMENT TRANS/WP.29/GRRF/2000/26/Rev.1
ADOPTED BY GRRF AT ITS FORTY-NINTH SESSION

Throughout the proposal, replace the following terms:

"SSCF" by "ASLF",

"SSCD" by "ASLD", and

"Speed self-control" by "Adjustable speed limitation"

Paragraph 1.1.1., footnote 2/, amend to read:

"2/ this Regulation with respect to SLDs to vehicles

Paragraph 1.2.2., amend to read:

" or function (ASLF), when it is activated."

Paragraph 1.2.3., amend to read:

"M3, N2 and N3 may"

Paragraph 2.1.5., amend to read:

"2.1.5. "Adjustable limit speed Vadj" means"

Paragraph 2.1.6., amend to read:

"2.1.6. "Adjustable speed limitation function ASLF" means a function which allows the driver to set a vehicle speed Vadj, and when activated limits the vehicle automatically to that speed."

Paragraph 5.2.2., amend to read:

" prescriptions of Regulation No. 10 to the"

Paragraph 5.2.5.1., amend to read:

" service braking system except for vehicles of categories M1 and N1, where the vehicle's service braking system may be actuated."

Paragraph 5.2.5.4.1., insert at the end a footnote */, to read:

"*/ e.g. kickdown"

Paragraph 5.2.6.1., delete the references to mph (two times).

Insert a new paragraph 5.2.6.2., to read:

"5.2.6.2. In the case of vehicles manufactured for sale in any country where imperial units are used, it shall be possible to set Vadj value by steps not greater than 5 mph between 20 mph and the maximum design speed of the vehicle."

Paragraph 5.2.6.2. (former), renumber as paragraph 5.2.6.3.

Paragraph 21.2.2., amend to read:

" prescriptions of Regulation No. 10 to the latest level of amendments in force at the time of type approval."

Paragraph 21.2.5.1., amend to read:

" service braking system except for vehicles of categories M1 and N1, where the vehicle's service braking system may be actuated."

Paragraph 21.2.5.4.1., insert at the end a footnote */, to read:

"*/ e.g. kickdown"

Paragraph 21.2.6.1., delete the references to mph (two times).

Insert a new paragraph 21.2.6.2., to read:

"21.2.6.2. In the case of devices manufactured for sale in any country where imperial units are used, it shall be possible to set Vadj value by steps not greater than 5 mph between 20 mph and the maximum design speed of the vehicle."

Paragraph 21.2.6.2. (former), renumber as paragraph 21.2.6.3.

Annex 1, annex 2 and annex 3, replace in all cases the following terms:

"speed limiting function" by "speed limiting function/adjustable speed limitation function",

"speed limitation device" by "speed limitation device/adjustable speed limitation device", and

"SLD" by "SLD/ASLD"

Annex 6, paragraph 1.5.1., delete the square brackets.

Annex 5

AD-HOC INFORMAL GROUPS OF GRRF

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1/ To be determined
