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Working Party on Brakes and Running Gear (GRRF)

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

(4 - 8 February 2002)

1. GRRF held its fifty-first session from 4 February (afternoon) to 8 February 2002 (morning) under the Chairmanship of Mr. M. Fendick (United Kingdom). Experts from the following countries participated in the work, following Rule 1(a) of the rules of procedure of WP.29 (TRANS/WP.29/690): 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; Yugoslavia. A representative of the European Commission (EC) also participated. Experts from the following non-governmental organizations participated: International Organization for Standardization (ISO); International Organization of Motor Vehicle Manufacturers (OICA); International Motorcycle Manufacturers Association (IMMA); European Association of Automobile Suppliers (CLEPA); European Tyre and Rim Technical Organization (ETRTO); Federation of European Manufacturers of Friction Materials (FEMFM); Bureau International Permanent des Associations des Vendeurs et Rechapeurs des Pneumatiques (BIPAVER). Under the special invitation of the Chairman experts from the following non-governmental organizations participated: Comité de Liaison des Constructeurs de Carrosseries et Remorques (CLCCR); Specialty Equipment Market Association (SEMA).

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/2001/8; TRANS/WP.29/GRRF/2002/1; TRANS/WP.29/GRRF/2002/3; TRANS/WP.29/GRRF/2002/4; TRANS/WP.29/GRRF/2002/6; informal documents Nos. 9 and 25 of annex 1 to this report.

3. GRRF adopted in principle part of the proposal of document TRANS/WP.29/GRRF/2001/8 as reproduced in annex 2 to this report. The expert from the Russian Federation introduced informal document No. 25 containing a circuit diagram illustrating his concerns. For that reason, GRRF agreed to resume consideration of this issue at the next session.

4. GRRF considered and adopted the proposal transmitted by the expert from OICA (TRANS/WP.29/GRRF/2002/1) as reproduced below. It was agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2002 sessions as draft Supplement 7 to the 09 series of amendments to Regulation No. 13.

Insert a new paragraph 5.2.2.17.1., to read:

"5.2.2.17.1. Trailers that utilize selective braking as a means to enhance vehicle stability shall in the event of a failure within the electric control transmission of the stability system indicate the failure by the separate yellow warning signal specified in paragraph 5.2.1.29.2. above via pin 5 of the ISO 7638:1997 connector.

Note: This requirement shall be kept under review during subsequent amendments to Regulation No. 13 pending:

- (i) an amendment to the ISO 11992 data communication standard that includes a message to indicate a failure within the electric control transmission of the trailer stability control system; and
- (ii) vehicles equipped to that standard are in general use."

5. The expert from ISO made a presentation on the revision of standard ISO 11992, which would imply the corresponding amendments to Regulation No. 13 as proposed in document TRANS/WP.29/GRRF/2002/3. He offered to send a copy of his presentation to the secretariat to allow its placement in the GRRF web site. GRRF expressed its general agreement to the proposal, but decided not to adopt it until a concrete date for the adoption of the ISO proposal was established. GRRF noted that in paragraph 5.1.3.6.1., the reference to "annex 17" should read "annex 16".

6. GRRF considered the proposal, transmitted by the expert from CLEPA for a draft Corrigendum (TRANS/WP.29/GRRF/2002/4) to Regulation No. 13. GRRF agreed that an editorial group should verify the proposal, and requested the experts from Germany and CLEPA, jointly with the secretariat, to revise the proposal. Experts were requested to send their comments to the editorial group, in order to take them into consideration.

7. GRRF considered and adopted the proposal transmitted by the expert from OICA (TRANS/WP.29/GRRF/2002/6) of a Corrigendum to Regulation No. 13 only affecting its French version. It was agreed to transmit it to WP.29 and AC.1 for consideration at their June 2002 sessions, as draft Corrigendum 2 to the 09 series of amendments to Regulation No. 13.

8. GRRF also adopted a draft Corrigendum to Regulation No. 13-H based on informal document No. 9, as reproduced below. It was also agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2002 sessions as draft Corrigendum 3 to Regulation No. 13-H.

Annex 5, paragraph 3.1.(A), amend to read (footnote 2/ not modified):

" utilization curve of the rear axle shall not be situated above that for the front axle: 2/

for all braking rates between 0.15 and 0.8:"

(b) Modular type approval for trailers

Documentation: TRANS/WP.29/GRRF/2000/20 and Add. 1; TRANS/WP.29/GRRF/2002/7.

9. GRRF considered the proposal for modular type approval of trailers contained in documents TRANS/WP.29/GRRF/2000/20, and Add. 1, and TRANS/WP.29/GRRF/2002/7. To react to some concerns expressed by several experts, GRRF confirmed that this proposal would only apply to trailers and neither to motor vehicles nor to parts of them. It was also made clear that the reference trailer must be approved following the conventional type approval, performing all the tests prescribed in the Regulation, and that this modular type approval procedure would only apply to trailers derived from the reference trailer. To the question of the adoption of this procedure without having experience on its application, several experts confirmed that this procedure was being used on national type approvals of trailers, and recalled that the aim of the proposal was to transform them into an ECE type approval.

10. After the statements indicated in paragraph 9 above, GRRF adopted the proposal of the three documents mentioned in paragraph 9 above with the amendments indicated below. It was agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2002 sessions as draft Supplement 7 to the 09 series of amendments to Regulation No. 13. GRRF thanked the experts who had participated in the work, and especially the Chairman of the informal group for the work done.

Annex 19 (new),

Paragraph 2.1.2., the reference to "annex 21" should read to "annex 20".

Annex 20 (new),

Paragraph 2.1.1., amend to read:

" alternative procedure defined in this annex shall not be used as a reference trailer."

11. The expert from the European Commission informed GRRF that European Community Directive 2001/116/EC, amending the framework Directive 74/320/EEC, had been adopted. They were still working towards Whole Vehicle Type Approval and Single Vehicle Approval for trailers. The Phase 1 revision of the framework directive would introduce WVTa but would not address SVA. This would be for the second phase. Although it remained a major priority, there was no clear timetable for the work to be completed. GRRF encouraged the European Commission to cross reference the braking Directive and Regulation No. 13.

(c) Facilitation of testing of vehicles in service

Documentation: TRANS/WP.29/GRRF/2001/16.

12. GRRF continued the consideration of document TRANS/WP.29/GRRF/2001/16 as amended at the previous session (TRANS/WP.29/GRRF/50, paras. 22 and 23). Finally, GRRF adopted the proposal with the amendments reproduced below, and agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2002 sessions as draft Supplement 7 to the 09 series of amendments to Regulation No. 13.

The proposed amendment to paragraph 5.1.4.1., should be deleted.

The proposed new paragraph 5.1.4.1.1., should be deleted.

Paragraph 5.1.4.6.1., amend to read:

" air operated brakes using a roller brake tester."

Paragraph 5.1.4.6.2., amend to read:

" ... for each axle. The applicant for type approval shall nominate reference-braking forces for a brake activator pressure range from 1 bar. These data shall be"

Paragraph 5.1.4.6.3., amend to read:

"5.1.4.6.3. The reference braking forces shall be declared such that the vehicle is capable"

The proposed amendment to paragraph 5.2.1.11.2., should be deleted.

The proposed new item 16.1. to annex 2, should be deleted.

13. The expert from Germany stated that Regulation No. 13 could only cover requirements that deal with the proper type approval procedure. Nevertheless, he opposed the deletion of the paragraphs from the proposal (as indicated in paragraph 12 above). He said that the complete proposal of document TRANS/WP.29/GRRF/2001/16 was a compromise that had been reached by the informal group after 10 meetings. He also said that for him and other experts the friction components of the brakes were safety components and liable to wear. Finally, he pledged to keep this item on the agenda for the September 2002 session and suggested to resume consideration of the paragraphs not adopted by GRRF following his proposal, reproduced in annex 3 to this report.

(d) Provisions for electric vehicles

Documentation: informal documents Nos. 5, 6 and 11 of the forty-eighth session.

14. The expert from the United States of America reminded GRRF that, at its forty-sixth session, this item had been considered for the first time, on the basis of a document tabled by him, with the aim of harmonizing the prescriptions of FMVSS No. 135 and Regulation No. 13-H. He said that additional documents had been transmitted by the expert from Japan as a reply to the first document, and that these documents (informal documents Nos. 5, 6 and 11 of the forty-eighth session) had not been fully considered due to the load of work in his country, mainly related to tyre regulations.

15. The Chairman requested that the Japanese delegate produce a consolidated document for presentation as an informal document at the September 2002 session of GRRF. This would be followed by full discussion on the matter during the February 2003 GRRF sessions. In agreement with the expert from the

United States of America, GRRF agreed to continue consideration of this issue on the basis that consolidated document could be expected to be tabled by the United States of America.

(e) Illumination of stop lamps

Documentation: TRANS/WP.29/GRE/1999/17; informal documents Nos. 10, 21, 23 and 25 of annex 1 to this report.

16. The expert from OICA introduced informal document No. 10 containing a proposal to amend Regulation No. 48 following the principles agreed by GRRF at the fiftieth session (TRANS/WP.29/GRRF/50, para. 27). The expert from Japan tabled informal document No. 21, in which he proposed that stop lamps should be illuminated by the activation of a retarder, when the deceleration performance reached the value of 2.2 m/s^2 . The expert from the European Community introduced informal document No. 23 with a proposal to amend in Regulation No. 48 provisions concerning stop lamps. He said that the proposal would also be transmitted to GRE. The expert from the Russian Federation tabled informal document No. 25 containing the national legislation on the issue. The expert from the United States of America informed GRRF that his country had presented a proposal to GRE establishing a minimum deceleration above which the stop lamps should be activated.

17. The Chairman recalled that GRRF should determine the conditions for the activation of stop lamps, and expressed his intention to report back to the Chairman of GRE that GRRF was not ready to propose amendments to Regulation No. 48. GRRF agreed to continue consideration of this issue at its next session.

(f) Braking compatibility of heavy goods vehicles

Documentation: Informal document No. 5 of annex 1 to this report.

18. The expert from the United Kingdom presented informal document No. 2, which contained the report on the second meeting on braking compatibility of heavy goods vehicles. He invited all the experts to collaborate in this matter. He and the experts from OICA and CLCCR were in agreement that an informal group should continue to work on this topic. The informal group had already agreed to work together to identify the vehicle types and braking system designs that were affected, also to establish the extent of the problems. This would then lead to discussion on possible amendments to the Regulation. The Chairman announced his intention to obtain WP.29's authorization for such an informal group at its March 2002 session.

19. GRRF was informed that, subject to WP.29's authorization, a new meeting of the informal group was provisionally scheduled for 22 May 2002 at the offices of OICA, and that a proposal by CLCCR could be considered.

REGULATION No. 78 (Motorcycle braking)

(a) Further development

20. Following concerns raised by the French delegate (TRANS/WP.29/GRRF/50, paras. 33 and 34) covering the availability of suitable test equipment for use on motorcycles, the expert from IMMA reported that the concerns were not a practical problem but something that the vehicle manufacturers had to pay attention too.

21. The experts from Germany and the United States of America expressed their concerns about the current prescriptions of antilock braking system of motorcycles in the Regulation. For this particular question, Germany agreed to transmit a proposal for amending Regulation No. 78 for consideration at the February 2003 session.

(b) Harmonization of motorcycle braking requirements

Documentation: informal documents No. 15 and 20 of annex 1 to this report.

22. The expert from IMMA made a presentation of the summary of the work done for setting up the basis for developing a global technical regulation (gtr). He introduced informal document No. 15, which contained the report, the results of the different tests made, and in a table, the requirements of FMVSS No. 122, Japanese SS 12-61, Regulation No. 78, and the IMMA proposal for the draft gtr. He explained to GRRF that he envisaged two steps for the gtr: in the first, the main aim should be to harmonize the current prescriptions, and in the second step to improve them.

23. The expert also said that several items required further discussion and asked for GRRF's advice on them. Especially, he requested GRRF to decide on the inclusion of quadricycles; the kind of wet brake test to use for drum brakes; the modification of wet tests for modern combined braking systems (CBS); the control layouts in the light of new control technologies; whether minimum actuation forces were required; the need of partial failure testing; and if a labelling was required, the language(s) to be used.

24. Concerning the inclusion of quadricycles into the scope of the gtr, GRRF suggested awaiting the results of the informal group on "Common Tasks". For the wet brake test for drums, no special problem was raised and the expert from IMMA announced that his organization would continue to reflect on this. On the question of modern CBS, for acting the brakes simultaneously on the two wheels when activating one of the brake commands, the expert explained to GRRF that there were two possible solutions for testing: increase the load of the motorcycle or the speed. GRRF did not have any preference, and agreed to keep this question open. On the issue of the possibility of having a single control for the brakes of the two wheels, some experts were in favour of safeguarding the two independent controls. Concerning the other issues raised by the expert from IMMA, GRRF agreed to continue its consideration at the next session.

25. The expert from the United States of America introduced informal document No. 20 containing information on motorcycle brake tests being conducted by his country. He said that the plans of this study were to analyze several braking test manoeuvres in order to reduce the number of fatalities of motorcycle crashes. He announced that the new steps were to assess the anti-lock performance, to develop a test specifically evaluating linked braking systems, and to evaluate and compare the stringency of FMVSS No. 122, Regulation No. 78 and the Japanese Standard. He concluded that his country was open to suggestions concerning the method for comparing the above-mentioned standards, and for defining the type of manoeuvre to evaluate the anti-lock braking system performance. At the request of the expert from IMMA, he indicated that the final report of the test results would be posted on the NHTSA web site soon.

26. The expert from Germany questioned why ABS was not included as a priority item for discussion. If ABS could be included as a separate item, he would be prepared to bring German University experts along to make a presentation. The expert from IMMA agreed that ABS should be included as a separate item and that he would also like industry experts to make a presentation. This would be scheduled for the February 2003 session.

REGULATION No. 90 (Replacement brake linings)

(a) Further development

Documentation: TRANS/WP.29/GRRF/2001/18.

27. The expert from FEMFM informed GRRF that to resolve the impasse of the last session (TRANS/WP.29/GRRF/50, para. 40), a meeting had taken place on January 2002. He said that, as a result of it, he would draft a new proposal to assure better that the new proposed speeds for the tests represent an improved equivalence in comparison with the current proposal (TRANS/WP.29/GRRF/2001/18).

28. GRRF agreed on making validation tests to confirm the idea of the proposal and expected to resolve this issue with the new proposal by FEMFM to be transmitted at the September 2002 session.

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

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

29. The expert from the United States of America informed GRRF that the manufacturers of his country had requested to develop a standard for replacement brake linings. He also explained to GRRF that his country had decided to do a research for a method to test replacement brake linings.

30. The Chairman suggested, and GRRF agreed that, before taking a decision on drafting a gtr, GRRF should wait for the final decision of WP.29 on the establishment of priorities for developing gtrs.

REGULATION No. 111 (Handling and stability of vehicles)

Documentation: TRANS/WP.29/GRRF/2000/19; informal document No. 24 of annex 1 to this report.

31. The expert from the Russian Federation introduced informal document No. 24. He explained to GRRF that it contained amendments to the Regulation in three areas: the angle of tilt table for static and dynamic tests, the filling of the tank vehicles, and the tilt test for semi-trailers. GRRF considered the proposal as a good contribution to clarify the conditions of the tests in the Regulation, but required a clarification on what should be considered as normal fluid for a particular tank test. To allow a better consideration of the proposal, GRRF requested the secretariat to distribute informal document No. 24 with an official symbol at the next GRRF session.

32. Concerning the dynamic test simulation, the expert from the Russian Federation proposed to transmit a concrete proposal for the February 2003 session. The Chairman reminded delegates that a lot of work had been done during the previous sessions, and that this issue was difficult to deal with. The expert from the Netherlands recalled that ISO was working on standards for active stability systems, including those based on the braking systems actuation. Concerning this subject, the expert from OICA recalled his previous interventions and insisted that single tests did not give objective results, and that a series of tests were the only way to provide objective results.

33. The expert from the United Kingdom was opposed to waiting for the ISO proposal, and supported the idea to consider the proposal that the expert from the Russian Federation had announced (see para. 31 above). GRRF agreed to continue consideration of this issue during the forthcoming sessions.

REGULATION No. 79 (Steering equipment)

Documentation: TRANS/WP.29/GRRF/2002/2; TRANS/WP.29/GRRF/2002/5; informal documents Nos. 12 and 13 of annex 1 to this report.

34. GRRF considered and adopted the proposal transmitted by the expert from OICA (TRANS/WP.29/GRRF/2002/2). The expert from Denmark expressed some concerns considering the proposed maximum effort for M3 and N3 vehicles being too high. Nevertheless, it was agreed to transmit the proposal to WP.29 and AC.1 for consideration at their June 2002 sessions, as draft Supplement 2 to the 01 series of amendments to Regulation No. 79.

35. The expert from Germany made a summary presentation of the proposal for amending the Regulation (TRANS/WP.29/GRRF/2002/5) to include provisions for full power electric steering. He said that it was the result of the compromise reached by the informal group in charge of developing Regulation No. 79.

36. The expert from OICA introduced informal document No. 12 containing editorial amendments to the proposal. GRRF requested the secretariat to distribute it as an Addendum to document TRANS/WP.29/GRRF/2002/5 for the next session. The expert from OICA also introduced informal document No. 13 with an alternative proposal for paragraph 5.1.1., which is reproduced below:

"5.1.1. The steering equipment shall be so designed that its function can, without disassembly, be checked with commonly used measuring instruments, methods or test devices."

37. Some GRRF experts expressed their preference for the alternative text, but the expert from Germany opposed it. Finally, GRRF agreed to continue its consideration at its next session in September 2002.

38. General comments were made on the proposal of document TRANS/WP.29/GRRF/2002/5, among them agreeing to amend, throughout the text, the word "equipment" to "system". Some experts considered the maximum speed limit of 50 km/h, above which an automatically commanded steering system could not be used, too high, and the expert from France requested an amendment. In this respect, the expert from Germany declared that he was open to limit the actuation to a speed below 30 km/h. GRRF agreed to use 30 km/h as a first step, until more experience was gained with the operation of these systems and industry was asked if it could make a presentation on the various systems available to allow further consideration.

39. The expert from Germany clarified that "additional steering system" only applied to special trailers typically used for transporting exceptional loads. The definitions of paragraphs 2.3.3., 2.3.4., and 2.3.5. were considered confusing, mainly concerning autonomous steering and how they dealt with the emergence of systems such as lane guidance. After this first general deliberation of the proposal, GRRF agreed to continue its consideration at the next September session.

TYRES

(a) Global harmonization of tyre regulations

Documentation: Informal documents Nos. 6, 18 and 19 of annex 1 to this report.

40. The expert from the United Kingdom, in his capacity as Chairman of the informal group, reported on the meeting held on 9 and 10 November 2001. He said that informal document No. 6 contained the unconfirmed minutes of the meeting. He informed GRRF that the group's work was to anticipate the result of the final rulemaking by the United States of America, in order to be ready

to present the GRRF comments to it. He said that the informal group discussed the alternatives proposed for the high-speed test, the endurance test, the low-pressure performance test (associated with the tyre pressure monitoring system warning level), the bead unseating test, the road hazard impact test and the ageing effects test. He confirmed that, once the United States of America had issued the Notice of Proposed Rulemaking with the definite proposals for these tests, the informal group would meet again in order to finalize its comments and transmit them in time to the United States of America. He said that Japan had offered to organize such a session of the informal group.

41. Concerning the issue of tyre labelling (marking), he informed GRRF that, given that the period for receiving comments would expire on 19 February 2002, the informal group had had a meeting on the morning of 4 February 2002, and that the comments of the informal group to this issue would be transmitted to the United States of America on 8 February 2002.

42. The expert from the United States of America introduced informal documents Nos. 18 and 19 containing information on the status of the tyre standard rulemaking being conducted by his country and on tyre pressure monitoring system regulation being developed by his country. He confirmed the information given by the expert from the United Kingdom that, once Notices of Proposed Rulemaking were published, there would be a short time to send comments, and that it was essential to react as soon as possible after the publication of the rulemaking. He offered to indicate the INTERNET address of the publication.

Note by the secretariat: The expert from the United States indicated that when the United States tyre standard notice of proposed rulemaking had been approved for publication it would be posted on the NHTSA web site at: <http://www.nhtsa.dot.gov/cars/rules/rulings>.

(b) Tyre adhesion test

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

43. The expert from the United Kingdom informed GRRF that the first part of informal document No. 6 referred to the tyre adhesion test considered by the informal group. He said that the European Union Directive on tyre noise test and limits had been adopted and that tests on tyre wet grip were being conducted by Germany, with collaboration from the Netherlands and the United Kingdom. He informed GRRF that work would continue on this issue during the next meeting of the informal group.

44. The expert from ETRTO informed GRRF on the progress of the work that ISO was making on the tyre adhesion test, and announced that a document concerning passenger cars would possibly be transmitted for the September GRRF session. He said that a test for trucks would be ready at a later time.

45. In reply to the question of what method, vehicle or trailer test, would be chosen, the expert from ETRTO indicated that either could be used depending on the most suitable for the approval authority. He said that both methods would give comparable results and ranking order for tyre adhesion. The Chairman of GRRF agreed with the expert from Japan in that the informal group should recommend to GRRF only one method to determine the tyre adhesion.

(c) Regulation No. 30 (Pneumatic tyres)

Documentation: TRANS/WP.29/GRRF/2001/11; informal documents Nos. 2 and 8 of annex 1 to this report.

46. The experts from the United Kingdom and ETRTO informed GRRF that they had met to clarify the proposal made by the United Kingdom

(TRANS/WP.29/GRRF/2001/11) and the ETRTO reaction to it (informal document No. 8). As a result, the expert from the United Kingdom withdrew his proposal relating to "V", "W" and "Y" rated tyres and announced that an updated proposal relating to "ZR" rated tyres would be transmitted for consideration at the next GRRF session.

47. The expert from ETRTO explained that there was a difference between the French and the English version of Supplement 12 to the 02 series of amendments to Regulation No. 30, and proposed to correct the discrepancy. GRRF adopted the Corrigendum reproduced below, and agreed to transmit it to WP.29 and AC.1 for consideration at their June 2002 sessions as draft Corrigendum 1 to the English version of Supplement 12 to the 02 series of amendments to Regulation No. 30

Paragraph 3.1.11.1., correct to read (English only):

" (60 psi) the upper case characters being at least 12.7 mm high"

48. The expert from Germany introduced informal document No. 2, containing the proposal for amending both the European Union framework Directive 70/156/EEC and the European Union tyre Directive 92/23/EEC. He explained to GRRF that his intention was to discuss the technical issues in GRRF for amending Regulation No. 30, and once adopted, to propose the corresponding amendments to the European Union Directives. He said that the current Regulation and Directives did not assure sufficient level of safety in comparison with developments in tyre technology and the fitting and use of specific tyres on vehicles. He referred to future developments of tyres incorporating active control of other vehicle systems.

49. The expert from Germany mentioned that tyres should contribute to the traffic noise reduction as well as to the reduction of pollutant emissions without compromising the level of safety. He also said that rolling resistance index, the reduction of too large current tolerances, the extended mobility tyre/wheel system, and the use of transponder technology in passenger car tyres would be the main issues to be developed in the proposal for amending Regulation No. 30.

50. The expert from Sweden pointed out that too sophisticated tyres could represent practical problems, because they would be specifically linked to the car. He expressed his concerns that the use of such sophisticated tyres would, in fact, ban the use of snow tyres, because they would not meet the performance of the new developed tyres. Nevertheless, he indicated that, from a technical point of view, he could agree with the above-mentioned concepts. The expert from the United Kingdom also insisted that the inter-changeability concept of tyres should be maintained in the consumers' interest.

51. The expert from the United States of America informed GRRF that a research was being conducted in his country, in which tyres were considered as a part of the vehicle suspension with its implication on safety. He also defended the consumers' right to choose the tyres for their vehicles. He said that work in this area would continue in his country.

52. The expert from Germany offered to transmit proposals covering the issues he mentioned, and GRRF agreed to consider them at its next session.

(d) Regulation No. 75 (Motorcycle tyres)

Documentation: TRANS/WP.29/GRRF/2001/13; informal document No. 16 of annex 1 to this report.

53. GRRF considered and adopted the proposal of document TRANS/WP.29/GRRF/2001/13, modified by informal document No. 16. It was agreed to transmit it, as reproduced below, to WP.29 and AC.1 for consideration at their June 2002 sessions as draft Supplement 11 to Regulation No. 75.

Insert a new paragraph 2.18.1., to read:

"2.18.1. "Tyre to rim fitment configuration" means the type of rim to which the tyre is designed to be fitted. In the case of non-standard rims this will be identified by a symbol applied to the tyre."

Paragraph 3.1.12., amend to read (including the reference to a new footnote 5/):

"3.1.12. An identification of the tyre to rim fitment configuration, when it differs from the standard configuration, immediately after the rim diameter marking referred to in paragraph 2.16.3 of this Regulation.

In the case of tyres intended to be fitted to rims having a diameter equivalent to code 13 (330 mm) or above, this inscription shall be "M/C" 5/. This requirement shall not apply to any tyre sizes listed in the tables in annex 5 to this Regulation.

5/ this marking shall apply to all relevant tyres only after 1 June 2003."

Paragraph 4.1.9., the reference to footnote 5/ (former) and the footnote, renumber as footnote 6/.

Paragraph 5.4.1., the reference to footnote 6/ (former) and the footnote, renumber as footnote 7/, and amend to read:

"7/ , 31 for Bosnia and Herzegovina, 32 for Latvia, 33 (vacant), 34 for Bulgaria, 35 - 36 (vacant), 37 for Turkey, 38 - 39 (vacant), 40 for The former Yugoslav Republic of Macedonia, 41 (vacant), 42 for the European Community (approvals are granted by its member States using their respective ECE symbol), 43 for Japan, 44 (vacant), 45 for Australia, 46 for Ukraine; 47 for the Republic of South Africa and 48 for New Zealand. Subsequent numbers"

54. The expert from the United Kingdom, who had transmitted informal document No. 16, indicated that, following the same principles as for Regulation No. 75, informal document No. 16 contained parallel proposals to amend Regulations Nos. 30 and 54. To allow a better consideration of the proposals, the secretariat was requested to distribute the non-adopted part of informal document No. 16 with an official symbol for consideration at the September session.

(e) Regulation No. 106 (Agricultural tyres)

Documentation: TRANS/WP.29/GRRF/2001/12; informal document No. 14 of annex 1 to this report.

55. GRRF adopted the proposal of document TRANS/WP.29/GRRF/2001/12 amended as reproduced below. It agreed to transmit it to WP.29 and AC.1 for consideration at their June 2002 sessions as draft Supplement 2 to Regulation No. 106

Paragraph 3.1.6., amend to read:

" "DEEP" (or "R-2") in the case of"

56. GRRF adopted a proposal for a Corrigendum (informal document No. 14) to the Regulation as reproduced below. It was also agreed to transmit it to WP.29 and AC.1 for consideration at their June 2002 sessions as draft Corrigendum 1 to Regulation No. 106.

"Annex 3, PART A, the minimum height reference "b" indicated for the examples of markings "116 A8" and "113 B" should read "c"."

(f) Regulation No. 108 (Retreaded pneumatic tyres)

Documentation: TRANS/WP.29/GRRF/2000/23/Rev.1; informal documents Nos. 3 and 17 of annex 1 to this report.

57. The expert from BIPAVER introduced informal document No. 3, which superseded document TRANS/WP.29/GRRF/2000/23/Rev.1. He said that it contained two proposals; the first related to allowing the retreading of non "e" nor "E" marked tyres, and the second to allow retreading of "W" and "Y" rated passenger tyres.

58. Concerning the retreading of non "e" and non "E" marked tyres, the proposal received the reservations, which had been expressed at the previous sessions (TRANS/WP.29/GRRF/48, para. 67 and TRANS/WP.29/GRRF/50, para. 59). As concerns the second part of informal document No. 3, GRRF agreed, in principle, to adopt it as reproduced in annex 4 to this report. It also agreed to resume its consideration at the September 2002 session.

59. The expert from the United Kingdom presented informal document No. 17 containing proposals to amend Regulations Nos. 108 and 109 parallel to those of Informal Document No. 16 referred to in paragraph 53 above. To allow a better consideration of them, the secretariat was requested to distribute informal document No. 17 with an official symbol at the next session.

(g) Regulation No. 109 (Retreaded pneumatic tyres for commercial vehicles)

Documentation: TRANS/WP.29/GRRF/2000/24/Rev. 1; informal documents Nos. 4 and 17 of annex 1 to this report.

60. For informal document No. 4, which superseded document TRANS/WP.29/GRRF/2000/24/Rev.1, concerning the retreading of non "e" or "E" marked tyres, GRRF had the same reservations as for Regulation No. 108 (see paragraph 57 above). However, the Chairman sympathized with the BIPAVER position and suggested that BIPAVER consider the possibility of confining the requirement to use non "E" or "e" marked tyres to truck tyres (Regulation No. 109) and to tyres from a specified country, for example Japan. It was suggested that BIPAVER provide a direct comparison of requirements for the specified country to those of Regulation No. 54. The expert from the United Kingdom referred to the problems of the two different systems of control, type approval and self-certification, and the non-existence of Conformity of Production with the self-certification approach.

61. GRRF noted that informal document No. 17 had been considered jointly with Regulation No. 108 (see paragraph 58 above).

(h) Regulation No. 64 (Temporary use spare wheels/tyres)

Documentation: Informal document No. 11 of annex 1 to this report.

62. The expert from OICA introduced informal document No. 11 containing an amendment to the Regulation. To allow a better consideration of the proposal, the secretariat was requested to distribute the informal document with an official symbol for consideration at the next session.

OTHER BUSINESS

(a) Proposal for a draft Regulation on wheels

Documentation: TRANS/WP.29/GRRF/1998/19/Rev.3; TRANS/WP.29/GRRF/2001/14; informal documents Nos. 7 and 22 of annex 1 to this report.

63. The expert from Italy presented informal document No. 22, which superseded document TRANS/WP.29/GRRF/1998/19/Rev.3 and included the proposal of document TRANS/WP.29/GRRF/2001/14. He said that it contained the agreement reached by the informal group at its meeting held on 18 January 2002. He also welcomed the suggested corrections of informal document No. 7, which had been transmitted by the expert from the United Kingdom.

64. The Chairman suggested that the expert from the United Kingdom should help in the final drafting of the proposal following further discussion between Germany and Italy. The expert from Germany suggested a possible meeting in London and the Secretary reminded the group that the deadline for official documents for the September session was 21 June 2002. In order to facilitate its consideration, GRRF requested the secretariat to distribute the revised informal documents Nos. 7 and 22 with official symbols for consideration at the fifty-second session of GRRF.

(b) Report on the International Harmonization Research Activities (IHRA)

Documentation: TRANS/WP.29/GRRF/2002/9

65. As indicated at the one-hundred-and-twenty-fifth WP.29 session (TRANS/WP.29/815, paras. 38 to 41), the expert from Canada, Chairman of the IHRA Intelligent Transport Systems (ITS) working group made a presentation of ITS systems in order to introduce IHRA activities and to explore opportunities to liaise with GRRF in areas of common interest. His complete presentation is available in the website of GRRF (informal documents - (fifty-first session) and he indicated that the IHRA ITS working group activities were available in the Internet address <http://199.79.179.92/ITS/ITS.html>.

66. The issue of non-acceptance of new technologies in the current Regulations was raised, and GRRF noted that the procedure of the European Union framework Directive for accepting vehicles equipped with new technologies had no equivalence in the 1958 Agreement. The expert from IHRA said that his presentation had the aim of offering his collaboration in research to WP.29 and particularly to GRRF and to help in developing the regulatory control aspects. Referring to ITS, he said that research should continue before beginning the regulatory process.

67. Although it was recognized that all the subsidiary Working Parties of WP.29 were concerned with ITS matters, GRRF acknowledged that it would be the most involved, and suggested that it should take responsibility for the future ITS work.

68. The Chairman of WP.29 informed GRRF that it was under consideration by ITC to organize a round table on ITS and, subject to WP.29's authorization, suggested that GRRF should coordinate the work of organizing it. The GRRF Chairman proposed that GRRF accept the overall challenge of working on ITS and then perhaps to distribute to other Working Parties, as necessary, responsibilities particular to that group.

69. GRRF noted that document TRANS/WP.29/GRRF/2002/9 contained a proposed agenda for the round table on ITS, and requested the help of IHRA in organizing it. The expert from IHRA agreed to provide its support. The Chairman said that he would report to WP.29 asking for advice on both the organization of the round table and on the proposed agenda.

Tribute to Mr. G. Meekel

70. With great sorrow, GRRF received the sad news that Mr. G. Meekel, Chairman of GRE, passed away on 4 February 2002. Recognizing his high contribution to the work of WP.29, all the experts observed a minute of silence in his memory, and unanimously agreed to convey condolences to his family and to the delegation of the Netherlands.

Tribute to Mr. Rist

71. The Chairman informed GRRF that Mr. Rist (Germany) had taken his retirement. GRRF thanked Mr. Rist for his collaboration in both GRRF and in the informal group in charge of Periodical Technical Inspections (PTI) that he Chaired, and requested the German delegation to transmit to him the wishes of GRRF for a merited and happy long retirement.

AGENDA FOR THE NEXT SESSION

72. The following agenda was agreed for the fifty-second session of GRRF (Geneva, from 16 (9.30h) to 18 (17.30h) September 2002) 1/ 2/:

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 electric 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
4. Regulation No. 111 (Handling and stability of vehicles)
 - Further development

5. Regulation No. 79 (Steering equipment)
Further development
 6. Tyres 3/
 - 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/ New dates of the session assigned by the UNOG Conference Services (see TRANS/WP.29/841, para. 19).

3/ This item will not be considered earlier than Wednesday 18 September 2001. The GRRF session is to be followed by the thirty-seventh session of the Working Party on Noise (GRB), where the questions of tyre noise might be considered on Thursday, 19 September 2002, 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. | Chairman | - | E | Proposed Meeting Running Order |
| 2. | Germany | 6.3. | E | Proposal for a Commission Directive amending Council Directive 70/156/EEC on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers |
| 3. | BIPAVER | 6.6. | E | Proposal from BIPAVER for safeguards necessary to allow retreading of non E marked passenger tyres |
| 4. | BIPAVER | 6.7. | E | Proposal from BIPAVER for safeguards necessary to allow retreading of non E marked commercial vehicles tyres |
| 5. | United Kingdom | 1.6. | E | HGV Compatibility - Report to GRRF |
| 6. | United Kingdom | 6.1. and 6.2. | E | Unconfirmed minutes of the seventh meeting of UN ECE, GRRF ad-hoc Group on Global Harmonization of Tyre Regulations and Tyre Grip, held in Brussels 8/9/10 November 2001 |
| 7. | United Kingdom | 7.1. | E | Submission by the United Kingdom for amendments to document TRANS/WP.29/GRRF/1998/19/Rev.3 - Draft Regulation for Wheels |
| 8. | ETRTO | 6.3. | E | Regulation No. 30 - Passenger Car Tyres - United Kingdom proposal concerning the Marking of Service Description on High Speed Tyres |
| 9. | OICA | 1.1. | E | Proposal for a draft amendment to Regulation No. 13-H |
| 10. | OICA | 1.5. | E | Proposal for a draft amendment to ECE-R48 |
| 11. | OICA | 6.8. | E | Proposal for a draft amendment to ECE Regulation No. 64 |

| No. | Transmitted by | Agenda Item | Agenda Item | Title |
|-----|--------------------------|---------------------|----------------|---|
| 12. | OICA | 5. | E | Proposal for editorial amendments to document TRANS/WP.29/GRRF/2002/5 (ECE R79 Revision) |
| 13. | OICA | 5. | E | Proposal for an amendment to paragraph 5.1.1. (periodical inspection) of document TRANS/WP.29/GRRF/2002/5 |
| 14. | ETRTO | 6.5. | E | Regulation No. 106 Corrigendum |
| 15. | IMMA | 2.2. | E | Global technical regulation on motorcycle braking: report to GRRF |
| 16. | United Kingdom | 6.4. | E | United Kingdom submission regarding the ETRTO Document TRANS/WP.29/GRRF/2001/13 |
| 17. | United Kingdom | 6.6. and 6.7. | E | United Kingdom submission regarding the ETRTO Document TRANS/WP.29/GRRF/2001/13 -Amendments to Regulations 108 and 109, Retread Tyres |
| 18. | United States of America | 6.1. | E | Information on the status of the tyre standard rulemaking being conducted by the United States DOT/NHTSA |
| 19. | United States of America | 6.1. | E | Information on tyre pressure developed monitoring system regulation being conducted by the United States DOT |
| 20. | United States of America | 2.2. | E | Information on motorcycle brake testing being conducted by the United States DOT/NHTSA. |
| 21. | Japan | 1.5. | E | Lighting of the Stop Lamps Concurrent with Retarder Operation |
| 22. | Italy | 7.1. | E | Proposal for a new draft Regulation: Uniform provision concerning the approval of wheels for passenger cars and their trailers |
| 23. | European Commission | 1.5. | E | Proposal to amend Regulation No. 48 (and GTR 48) |
| 24. | Russian Federation | 4. | E/R | Proposal regarding addition to the ECE Regulation No. 111 "Uniform Provisions Concerning the Approval of Tank Vehicles of Categories N and O with Regard to Rollover Stability" |
| 25. | Russian Federation | 1.5. | R | Illumination of stop lamps |

| No. | Transmitted by | Agenda item | Agenda Item | Title |
|-----|-------------------|----------------|----------------|--|
| - | Germany | 6.1. | E | Proposal for a Commission Directive amending Council Directive 70/156/EEC on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers |
| - | IHRA | 7.2. | E | Intelligent Transport Systems (ITS) |
| - | ISO | 1.1. | E | Revision of ISO 11992 |

Annex 2

AMENDMENTS TO REGULATION No. 13 BASED ON DOCUMENT TRANS/WP.29/GRRF/2001/8
ADOPTED IN PRINCIPLE BY GRRF AT ITS FIFTY-FIRST SESSION

Annex 8,

Paragraph 2.3., amend to read:

".... In any case during the re-charging of the braking system from the zero pressure, the spring brakes **shall remain fully applied irrespective of the position of the spring braking control device** until the pressure in the service braking system is sufficient to ensure at least the prescribed secondary braking performance"

Paragraph 3., amend to read:

"3. AUXILIARY RELEASE SYSTEM"

Annex 13, Appendix 2,

Paragraph 2.2.1., amend the symbol Z_{Cmax} to read Z_{Cmaxi} in the $F_{i\ dyn}$ formulas for front and rear axles.

Paragraph 2.3.1., amend the symbol Z_c to read $Z_{c\ max}$ in the $F_{R\ dyn}$ formula.

Paragraph 2.3.2., amend the symbol Z_c to read Z_{CAL} in the $F_{R\ dyn}$ formula."

Annex 3

PROPOSED AMENDMENTS TO REGULATION No. 13 CONCERNING PTI
TO BE CONSIDERED AT THE SEPTEMBER 2002 GRRF SESSION

Paragraph 5.1.4.1., amend to read:

- "5.1.4.1. The vehicle shall be so designed that the friction components of the brakes, of which the function and efficiency is influenced by wear, can be checked. This shall be achieved without disassembly or removal of the wheels but use of covers for inspection holes is permitted.
Actual wear measurement may necessitate some level of disassembly."
(cp. TRANS/WP.29/GRRF/50, paragraph 22).

Insert a new paragraph 5.1.4.1.1., to read:

- "5.1.4.1.1. The above requirement is deemed to be fulfilled when an approximate wear condition of the friction components ~~is confirmed~~ **can be assessed** visually or by other means. The manufacturer shall, at the time of type approval, define the wear limit and the method by which assessment of the wear condition can be made.
- This information shall be made freely available (e.g. vehicle handbook, electronic data record).
- If the type of brake by design, does not allow accessibility of drums and/or discs, the vehicle manufacturer shall declare this and indicate the means of assessment of the wear condition during the lifetime. However, in all cases the provisions of paragraph 5.2.1.11.2. or 5.2.2.8.2. below shall be fulfilled."
- NOTE: These means might include reference to a renewal record relating actual wear to the distance covered by the vehicle.

Paragraph 5.1.4.7. and 5.1.4.7.1., amend to read:

- "5.1.4.7. It shall be possible to verify, in a simple way, the correct operational status of those complex electronic systems which have control over braking. ~~If special information is needed, this shall be made freely available.~~
- 5.1.4.7.1. At the time of type approval, the means implemented to protect against simple unauthorized modification of the operation to the verification means chosen by the manufacturer (e.g. warning signal) shall be confidentially outlined.
- Alternatively, this protection requirement is fulfilled when a secondary means of checking the correct operational status is available."

Paragraph 5.2.1.11.2., amend to read:

~~"..... are acceptable. The removal of front and/or rear wheels is permitted for this purpose on category M₁ and N₁ vehicles only. The yellow warning"~~

Annex 2

Insert a new item 16.1., to read:

"16.1. Accessibility of drums and/or discs: Yes/No 2/"

* * *

B: JUSTIFICATION

The tests for vehicles in use should be relatively simple, quick, inexpensive and reliable.

Re. Paragraph 5.1.4.1.

The current text of Regulation No. 13 requires in paragraph 5.1.4.1. "The braking system shall be so designed that the components of the braking system of which the function and efficiency is influenced by wear, can easily be checked". The demand "can easily be checked" is very high. At the moment this is only fulfilled for the linings. For brake drums and discs the situation is such that a check cannot be performed in an easy way in general.

Testing of drums and discs during periodic technical inspection and removing the wheels during the check will not be accepted because of economical and juridical reasons.

It is necessary to inspect the friction components which underlie wear by their function. Furthermore an absolutely exact wear measurement of the braking drums and discs should not be required during periodic technical inspection, but it must be possible to confirm the wear condition. If the type of brake design does not allow accessibility of the friction components, the vehicle manufacturer shall declare this at the time of type approval and indicate the means of assessment of the wear condition during lifetime.

The proposed deletion in paragraph 5.2.1.11.2. aligns with the proposed amendment in paragraph 5.1.4.1.

Re. paragraph 5.1.4.7.

Periodic Technical Inspection of vehicles in use offers the opportunity to examine the function of the braking system even when this is electronically controlled. This must be possible throughout the life of the vehicle as such checking is an essential means of controlling the safety of vehicles in use on the roads.

Whilst it is accepted that the actual braking performance will be measured under selected operating conditions on normal rolling roads, other complex electronically controlled functions, which utilize braking, are not able to actually be tested during periodic technical inspection. Therefore, the manufacturer should allow a possibility to verify in a simple way the correct operational status.

The means provided to protect this method of verification against unauthorized modification will be declared to the technical service but will not be exposed in the public domain.

Annex 4

AMENDMENTS TO REGULATION No. 108 ADOPTED IN PRINCIPLE
BY GRRF AT ITS FIFTY-FIRST SESSION

Paragraph 1.2, amend to read:

" capability below 120 km/h or above 300 km/h."

Paragraph 2.34.2., the table, amend to read:

"

| Speed symbol | Corresponding speed (km/h) |
|--------------|----------------------------|
| | |
| V | 240 |
| W | 270 |
| Y | 300 |

"

Paragraph 2.35.2, amend to read :

"2.35.2. for speeds greater than 210 km/h but not exceeding 300 km/h, the maximum load rating shall not exceed the percentage of the value associated with the load capacity index of the tyre, given in the table below, with reference to the speed capability of the vehicle to which the tyre is to be fitted.

| Tyre speed symbol | Maximum speed - km/h | Maximum load rating - % |
|-------------------|----------------------|-------------------------|
| V | 210 | 100,0 |
| | 215 | 98,5 |
| | 220 | 97,0 |
| | 225 | 95,5 |
| | 230 | 94,0 |
| | 235 | 92,5 |
| | 240 | 91,0 |
| | | |
| W | 240 | 100 |
| | 250 | 95 |
| | 260 | 90 |
| | 270 | 85 |
| | | |
| Y | 270 | 100 |
| | 280 | 95 |
| | 290 | 90 |
| | 300 | 85 |

For intermediate maximum speeds a linear interpolation of the maximum load rating is permissible."

Insert a new paragraph 6.1.1., to read:

"6.1.1. High speed tyres which have only the inscription "ZR" within the tyre size designation and do not bear a service description shall not be retreaded."

Paragraph 6.6.10., amend to read:

" and the maximum shall be 300 km/h ("Y" speed symbol)."

Annex 7,

Paragraph 1.2, the table, add a new row with "W and Y" for "Speed Category" and the values "3.2" for "Radial Tyres Standard" and "3.6" for "Radial Tyres Reinforced".

Paragraph 2.2.2., amend to read:

"2.2.2. the maximum load rating associated with a maximum speed (see paragraph 2.35.2. of this Regulation) of:

- 240 km/h in the case of tyres of Speed symbol "V",
 - 270 km/h in the case of tyres of Speed symbol "W",
 - 300 km/h in the case of tyres of Speed symbol "Y"
-

Annex 5

AD-HOC INFORMAL GROUPS OF GRRF

| <u>Name</u> | <u>Chairman</u> | <u>Contact person</u> |
|--|--|---|
| Braking compatibility of heavy goods vehicles | <u>1/</u> | <u>1/</u> |
| Handling and Stability of vehicles | Mr. R.B. Hoogvelt Tel: (+31-15) 269-6411 Fax: (+31-15) 269-7314 E-mail: hoogvelt@ wt.tno.nl | <u>1/</u> Tel: Fax: E-mail: |
| Tyres | Mr. G. Harvey Tel: (+44-20) 7944-2086 Fax: (+44-20) 7944-2069 E-mail: <u>geoff.harvey@dtlr.gsi.gov.</u> <u>uk</u> | Mr. G.W. Burford Tel: (+44-20) 7944-2072 Fax: (+44-20) 7944-2069 E-mail: <u>gordon.burford@dtlr.gsi.</u> <u>gov.uk</u> |
| Wheels | Mr. H. Hesse Tel: (+49-228) 300-7539 Fax: (+49-228) 300-7409 E-mail: Hans.Hesse@ BMVBW.Bund.de | <u>1/</u> Tel: Fax: E-mail: |
| Steering | Mr. W. Mader Tel: (+49(0) 89) 32950-611 Fax: (+49(0) 89) 32950-605 E-mail: hw.maeder@ Tuevvs.de | <u>1/</u> Tel: Fax: E-mail: |

1/ To be determined
