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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 FIFTY-FIFTH SESSION

(3 – 6 February 2004)

1. GRRF held its fifty-fifth session from 3 to 6 February 2004 under the Chairmanship of Mr. I. Yarnold (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; Czech Republic; Croatia; Denmark; Finland; France; Germany; Hungary; India; Italy; Japan; Netherlands; Norway; Poland; Republic of Korea; Russian Federation; Serbia and Montenegro; Slovakia; Spain; United Kingdom; and United States of America. 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). Upon 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. Informal documents without an official 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/2003/8; TRANS/WP.29/GRRF/2004/1; TRANS/WP.29/GRRF/2004/10; informal documents Nos. GRRF-55-5; GRRF-55-5/Amend.1, GRRF-55-6; GRRF-55-15 and GRRF-55-16 of annex 1 to this report.

3. GRRF considered and adopted informal document No. GRRF-55-5/Amend.1, superseding TRANS/WP.29/GRRF/2004/1, informal document No. GRRF-55-5 and including informal document No. GRRF-55-16 regarding provisions for the ISO 7638 connector. The proposal will be submitted for consideration to WP.29 and AC.1 at their June 2004 sessions as draft Supplement 10 to the 09 series of amendments to Regulation No. 13.

4. GRRF considered and adopted in principle the proposals of documents TRANS/WP.29/GRRF/2003/8 and TRANS/WP.29/GRRF/2004/10, subject to the deletion of the words "centre-axled trailers" in the last sentence of paragraph 5.2.2.2. and of the proposed new paragraphs 5.3. to 5.3.3. The expert from Germany was requested to prepare, in cooperation with the expert from Denmark, a consolidated document for approval at the next session of GRRF.

5. The expert from the United Kingdom asked GRRF to confirm that an O2 trailer with pneumatic brakes was required to comply with the compatibility requirements specified in annex 10. No one disagreed and the Danish expert agreed to clarify this point in the document, which he and the German expert were preparing.

6. With regard to informal document No. GRRF-55-6, the secretariat was requested to distribute it with an official symbol for consideration at the next session. The Chairman requested the experts to discuss in their capitals the exclusion of M1 vehicles from the scope of Regulation No. 13.

7. GRRF noted the correction (informal document No. GRRF-55-15) to be made to TRANS/WP.29/GRRF/54, para. 11. and requested the secretariat to verify the correct formula in TRANS/WP.29/2004/12 and amend the document at the March 2004 session of WP.29, if appropriate.

8. The expert from the European Commission raised his concern regarding the different braking requirements for M1 and small N1 categories of vehicles. The Chairman agreed to include the matter on the agenda for GRRF but requested a document from the European Commission for consideration.

(b) Facilitation of testing of vehicles in service

Documentation: TRANS/WP.29/2004/5; TRANS/WP.29/2004/6; informal documents Nos. GRRF-55-17 and GRRF-55-18 of annex 1 to this report.

9. GRRF had an exchange of views on documents TRANS/WP.29/2004/5 and TRANS/WP.29/2004/6 concerning wear indicators and on the amendments proposed to them (informal documents Nos. GRRF-55-17 and GRRF-55-18). The expert from the United Kingdom was requested to revise the documents for consideration at the next session. The experts from India, OICA and CLEPA were invited to contribute to it.

(c) Illumination of stop lamps

Documentation: TRANS/WP.29/GRRF/2004/7; TRANS/WP.29/GRRF/2004/8; informal documents Nos. GRRF-55-2; GRRF-55-23; GRRF-55-27 and GRRF-55-28 of annex 1 to this report.

10. The expert from ISO made a presentation (GRRF-55-23) on endurance braking systems. GRRF noted that the text of the corresponding ISO standard would be available before the end of 2004.

11. GRRF considered and adopted document TRANS/WP.29/GRRF/2004/7. The secretariat was requested to submit the proposal to WP.29 and AC.1 for consideration at their June 2004 sessions as draft Supplement 3 to the original version of Regulation No. 13-H.

12. After a lengthy exchange of views on informal documents Nos. GRRF-55-2, superseding TRANS/WP.29/GRRF/2004/8, and GRRF-55-27 (GRRF-55-28 was withdrawn), GRRF adopted the proposal of informal document No. GRRF-55-2 as reproduced in annex 2.

13. The expert from Germany expressed his opposition to the proposed protocol for endurance braking systems and agreed to discuss it with the expert of his country in GRE.

14. Finally, GRRF agreed to transmit the proposals for consideration to WP.29 and AC.1 at their June 2004 sessions, as a separate proposal for draft Supplement 10 to the 09 series of amendments to Regulation No. 13.

(d) Braking compatibility of heavy goods vehicles

Documentation: Informal documents Nos. GRRF-55-1 and GRRF-55-10 of annex 1 to this report.

15. GRRF confirmed its agreement with the proposals transmitted by the informal group (TRANS/WP.29/GRRF/2003/3, TRANS/WP.29/GRRF/2003/4, TRANS/WP.29/GRRF/2003/5, TRANS/WP.29/GRRF/2003/29 and TRANS/WP.29/GRRF/53, annex 3). In addition to the already agreed proposals, GRRF adopted informal documents Nos. GRRF-55-1, GRRF-55-1/Amend. 1 and GRRF-55-10 as reproduced in annex 3. They will be completed by the secretariat with the necessary requirements for the approval mark and submitted for consideration to WP.29 and AC.1 at their June 2004 sessions as the 10 series of amendments to Regulation No. 13. GRRF agreed that the secretariat could take appropriate measures to ensure the introduction of Transitional Provisions for the 10 series did not restrict Supplements to the 10 series of amendments, affecting the prescriptions of the 09 series of amendments, entering into force during the transitional period.

(e) Development of a global technical regulation (gtr) on braking

16. GRRF was informed by the Secretary of the informal group in charge of the development of the gtr that the group agreed that the gtr would apply only to passenger vehicles and expected to finalize its work by 2006.

HARMONIZATION OF MOTORCYCLE BRAKING REQUIREMENTS

Documentation: Informal document No. GRRF-55-22 of annex 1 to this report.

17. The expert from United States of America introduced informal document No. GRRF-55-22 summarizing the progress made by the informal group, the next session of which will be held in spring 2004. The detailed report of the informal group is available on the website dms.dot.gov with the docket number 11950.

18. GRRF experts were invited to join the informal group. The experts from India and Japan announced their future participation.

REGULATION No. 90 (Replacement brake linings)

19. It was recorded that the first meeting of the Ad hoc working group to consider issues raised concerning replacement braking linings would be held on 19 February. GRRF agreed to postpone the consideration of this item to its next session.

REGULATION No. 111 (Handling and stability of vehicles)

Documentation: TRANS/WP.29/GRRF/2003/14/Rev.1; informal documents Nos. GRRF-55-13; GRRF-55-19 and GRRF-55-26 of annex 1 to this report.

20. GRRF considered and adopted document TRANS/WP.29/GRRF/2003/14/Rev.1, taking into account amendments proposed by informal documents Nos. GRRF-55-13; GRRF-55-19 and GRRF-55-26 and reproduced in annex 4 to this report.

21. The proposed amendments will be submitted for consideration to WP.29 and AC.1 at their June 2004 sessions as Supplement 1 to the original text of Regulation No. 111.

22. The expert from Spain drew the attention of GRRF to the fact that, while WP.15 accepts the calculation and the real testing methods, some countries prefer the real test more than the calculation method.

REGULATION No. 79 (Steering equipment)

Documentation: TRANS/WP.29/GRRF/2002/5/Rev.1 and Rev.1/Add.1; informal documents Nos. GRRF-55-8; GRRF-55-20 and GRRF-55-21 of annex 1 to this report.

23. GRRF considered and adopted documents TRANS/WP.29/GRRF/2002/5/Rev.1 and Rev.1/Add.1, amended by informal document No. GRRF-55-8 reproduced in annex 5. The secretariat was requested to submit the proposal to WP.29 and AC.1 for approval at their June 2004 sessions, as draft 02 series of amendments to Regulation No. 79.

24. GRRF agreed that, according to the state of art and for the time being, a steering wheel is considered as the steering control.

25. Informal documents Nos. GRRF-55-20 and GRRF-55-21 will be considered at a later stage in the framework of Regulation No. 111.

TYRES

(a) Harmonization of tyre Regulations

Documentation: Informal documents Nos. GRRF-55-11; GRRF-55-14 and GRRF-55-24 of annex 1 to this report.

26. Informal documents Nos. GRRF-55-11 and GRRF-55-14 were introduced by the experts from the Czech Republic and from the United Kingdom respectively. Both confirmed the full application of EU Directives and UNECE Regulations in their country.

27. GRRF followed with interest a presentation by the expert from ETRTO (informal document No. GRRF-55-24) showing the proliferation of test and marking requirements, underlying the need for a tyre gtr in the framework of the 1998 Agreement. The Chairman of GRRF invited the governmental experts to study the ETRTO proposal and to consider how the issues raised should be addressed.

(b) Tyre adhesion test

Documentation: TRANS/WP.29/GRRF/2004/9; informal documents Nos. GRRF-55-4; GRRF-55-9 and GRRF-55-25 of annex 1 to this report.

28. GRRF followed with interest the presentation of a proposal (GRRF-55-25) made by the expert of ETRTO on the optimalization of tyre type approval and tyre sidewall markings.

29. GRRF had an exchange of views on document TRANS/WP.29/GRRF/2004/9 complemented by informal document No. GRRF-55-4. GRRF adopted the following amendments (based also on informal document No. GRRF-55-9) to document TRANS/WP.29/GRRF/2004/9.

Annex 8,

Paragraphs 2.1.2.3. and 2.2.2.3., add the end the following sentence:

"The tyre(s) shall not be exposed to the direct sunshine during conditioning."

Paragraph 2.2.2.13., amend to read:

" ...
mfdd = 231.48 / S where:

S is the measured stopping distance in metres between 80 km/h and 20 km/h

... "

30. With regard to the follow-up to be given to the proposals mentioned in paragraph 29. above, the opinions of the experts diverged. The possibilities envisaged were: amend Regulation No. 30, establish a new Regulation or incorporate the prescriptions in the future tyre noise Regulation.

31. The expert from Japan questioned the use of two test methods (vehicle and trailer), and informed that he would prefer one method providing comparative and absolute test results.

32. The expert from Germany was in general against the proposals and questioned their necessity.

33. The expert from the European Commission supported the test procedures outlined in TRANS/WP.29/GRRF/2004/9 and informed GRRF that the tyre noise Directive would, in the future, be completed with wet-grip requirements.

34. The expert from ETRTO was requested to address, as a matter of urgency, the remaining issues on the test procedure (vehicle/trailer) and provide a document for the fifty-fifth session.

35. Finally, GRRF agreed to resume the consideration of the subject at its next session. The expert from ETRTO announced that, in cooperation with the experts from Japan and Italy, he would prepare for that session proposals for marking, limit values, transitional provisions and technical service designation.

(c) Regulation No. 30 (Pneumatic tyres)

Documentation: TRANS/WP.29/GRRF/2003/10; TRANS/WP.29/GRRF/2003/30 and Corr.1; informal document No. 20 of the fifty-fourth session.

36. The expert from ETRTO informed GRRF that the rolling resistance issue has been discussed in his organization and that ETRTO was ready to prepare a working paper taking into account the existing standards and the proposals already transmitted by the expert from the Russian Federation (TRANS/WP.29/GRRF/2003/10; TRANS/WP.29/GRRF/2003/30 and Corr.1; informal document No. 20 of annex 1 to the report of the fifty-fourth session). The experts from the Russian Federation and from ISO were requested to provide, as soon as possible, an input to this work.

37. The expert from Japan mentioned that rolling resistance measures made in his country according to the ISO method gave differences of 20 per cent.

38. Subject to available working papers, the discussion will be resumed at the next session.

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

Documentation: TRANS/WP.29/GRRF/2003/10; TRANS/WP.29/GRRF/2003/30 and Corr.1 and TRANS/WP.29/GRRF/2004/2.

39. With regard to the follow-up agreed for documents TRANS/WP.29/GRRF/2003/10 and TRANS/WP.29/GRRF/2003/30 and Corr.1, see paragraph 35 above.

40. The ETRTO proposal (TRANS/WP.29/GRRF/2004/2) for draft Corrigendum 1 to Supplement 15 to the original version of Regulation No. 54 was adopted by GRRF and will be submitted to WP.29 and AC.1 for consideration at their June 2004 sessions.

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

Documentation: TRANS/WP.29/GRRF/2002/17/Rev.2; informal document No. 2 of the fifty-third session of GRRF.

41. GRRF had a general discussion on document TRANS/WP.29/GRRF/2002/17/Rev.2.

42. Following a suggestion to include these requirements in Regulation No. 30, the expert from ETRTO committed himself to prepare, in cooperation with the experts from the United Kingdom and OICA, appropriate proposals for the next session of GRRF, including provisions for marking, definitions, test methods, minimum requirements and unidirectional tyres.

43. It was also pointed out that the work in the United States of America to revise Tyre Pressure Monitoring System (TPMS) requirements should not delay the transmission of the ETRTO proposal in which only the Run-flat Warning System (RFWS) should be included.

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

Documentation: TRANS/WP.29/GRRF/2002/18/Rev.2

44. GRRF considered and adopted document TRANS/WP.29/GRRF/2002/18/Rev.2 with the following amendments:

Paragraph 2.21.2., amend to read:

" ...annex 5 to this Regulation,..."

Paragraph 3.2.9., amend to read:

"3.2.9. No later than two years after the date... "

45. The secretariat was requested to transmit the amended proposal to WP.29 and AC.1 for consideration at their November 2004 sessions, as draft Supplement 2 to Regulation No. 108.

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

Documentation: TRANS/WP.29/GRRF/2002/19/Rev.1; TRANS/WP.29/GRRF/2003/20; TRANS/WP.29/GRRF/2004/3; informal document No. GRRF-55-12 of annex 1 to this report.

46. GRRF considered and adopted in principle document TRANS/WP.29/GRRF/2002/19/Rev.1 as amended by TRANS/WP.29/GRRF/2003/20 with the amendment reproduced below and TRANS/WP.29/GRRF/2004/3. Informal document No. GRRF-55-12 was also adopted in principle and the secretariat was requested to distribute it with an official symbol for the next session, where the consideration of all the above-mentioned documents will be resumed.

Paragraph 3.2.12., amend to read:

"3.2.12.No later than two years after the entry... "

(h) Influence of tyres in accidents to motor vehicles and motorcycles

47. As no new information was available, the discussion of this item was postponed to the next session.

OTHER BUSINESS

(a) Proposal for a new Regulation on complex electronic systems

Documentation: TRANS/WP.29/GRRF/2003/27.

48. The expert from Germany introduced a proposal (TRANS/WP.29/GRRF/2003/27) for a new draft Regulation assembling in a single Regulation the type approval of all complex electronic systems instead of introducing prescriptions on them in the different Regulations. During a general exchange of views, concerns were expressed on the approval of a vehicle electronic control system without verifying its influence on other systems on the vehicle. It was also suggested that these systems could cross boundaries with other Working Parties; therefore they should also be involved in the consideration of this subject, once GRRF has formed its views.

49. In order to facilitate the discussion at the next session, the expert from Germany was requested to demonstrate by practical examples the application of his proposal.

(b) Draft Rule No. 2 to be annexed to the 1997 Agreement

Documentation: TRANS/WP.29/2003/16.

50. GRRF considered and agreed with document TRANS/WP.29/2003/16, after having removed the square brackets in paragraph 1.2.1. The expert from the Netherlands announced some drafting corrections which would be transmitted to the secretariat.

(c) Exchange of information on national and international requirements on passive safety

51. During a general discussion, problems related to the single vehicle approval and potential accidents due to the malfunction of the electronic throttle were mentioned. The expert from the United Kingdom requested delegates to provide information of similar experiences. He also agreed to supply the Danish expert with more information on the single vehicle approval requirements for the next meeting.

(d) Electronically controlled stability enhancement systems

Documentation: Informal document No. GRRF-55-7 of annex 1 to this report.

52. The expert from Hungary introduced informal document No. GRRF-55-7, proposing the elaboration of specific requirements, either including them in Regulations Nos. 13, 79 and 111, or in a new Regulation.

53. GRRF noted that document TRANS/WP.15/2004/11 contained definitions on stability functions. The expert from the Netherlands drew the attention of GRRF to document TRANS/WP.29/GRRF/2002/19, also relevant to the subject.

54. The Chairman agreed with a proposal from the expert from Germany concerning the creation of an informal group of international experts to deal with the subject. The Chairman decided to request the consent of WP.29 at its March session for this new informal group. He concluded that GRRF should return to this at its next session to agree, among others, the chairmanship and terms of reference.

(e) Regulation No. 89 (Speed limitation devices)

Documentation: Informal document No. 12 of the one-hundred-and-thirty-first session of WP.29.

55. GRRF took note of the above-mentioned informal document and, following an initial exchange of views, requested the secretariat to distribute it with an official symbol for consideration at the next session.

(f) New Regulation on wheels

56. GRRF recalled the decision taken at its fifty-second session (TRANS/WP.29/GRRF/52, para. 51) and invited governmental experts to seek support for this Regulation in the European Community. The Chairman announced that, without a clear signal of support for this Regulation from the Contracting Parties and from the European Commission, this item will not appear on the agenda of next session.

AGENDA FOR THE NEXT SESSION

57. GRRF did not consider the possible provisional agenda for the fifty-sixth session to be held in Geneva, from 20 (09.30h) to 22 (17.30h) September 2004. It was agreed that the Chairman, jointly with the secretariat, would propose a draft agenda. 1/.

1/ As part of the secretariat's efforts to reduce expenditure, all the official as well as the informal documents distributed prior to the session by mail or placed on the UNECE website (<http://www.unece.org/trans/main/welcwp29.htm>) 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.

Annex 1

LIST OF INFORMAL DOCUMENTS GRRF-55-... DISTRIBUTED DURING THE SESSION

No.	Transmitted By	Agenda item	Language	Title	Follow-up
1.	CLEPA	1.4.	E	Proposed corrigendum to document TRANS/WP.29/GRRF/2003/29	d
1/Amend 1.	CLEPA	1.4.	E	Proposed corrigendum to document TRANS/WP.29/GRRF/2003/29	d
2.	OICA	1.3.	E	Draft Amendment to Regulation No. 13	d
3.	Chairman United Kingdom		E	Provisional Agenda Item Running Order	a
4.	United Kingdom	6.2.	E	Proposal for Draft Amendment to Regulation No. 30 (Pneumatic tyres)	d
5.	Germany	1.1.	E	Proposal for Draft Amendments to Regulation No. 13 (Braking)	a
5/Amend.1.	Germany	1.1.	E	Proposal for Draft Amendments to Regulation No. 13 (Braking)	d
6.	United Kingdom	1.1.	E	Proposed Amendment to Regulation No. 13	b
7.	Hungary	7.4.	E	Proposal for Involving the Electronic Stability Enhancement Systems in the Regulatory Scheme	a
8.	United Kingdom	5.	E	Proposal to Amend Regulation No. 79	d
9.	Slovakia	6.2.	E	Proposal for Draft Amendments to Regulation No. 30 (Pneumatic tyres)	d
10.	OICA	1.4.	E	Draft Proposal for Transitional Provisions for Regulation No. 13, 10 Series of Amendments	d
11.	Czech Republic	7.3.	E	Information on the Latest Status in National Legislation of the Czech Republic Relating to Tyres and to Passive Safety	a
12.	United Kingdom	1.4.	E	Proposal to Amend Regulation No. 109	b

No.	Transmitted By	Agenda item	Language	Title	Follow-up
13.	United Kingdom	4.	E	Proposal to Amend Regulation No. 111, document TRANS/WP.29/GRRF/2003/14/Rev.1	d
14.	United Kingdom	6.1.	E	Information on the Latest Status in National Legislation of the United Kingdom Relating to Tyres and to Passive Safety	a
15.	India	1.1.	E	Comments on document TRANS/WP.29/GRRF/54, para. 11	d
16.	India	1.1.	E	Comments on TRANS/WP.29/GRRF/2004/1	a
17.	India	1.2.	E	Comments on document TRANS/WP.29/GRRF/2004/5	a
18.	India	1.2.	E	Comments on document TRANS/WP.29/GRRF/2004/6	a
19.	Russian Federation	4.	E	Proposal for amendment of the Annex 3 para. 7.2. of the document TRANS/WP.29/GRRF/2003/14/Rev.1 (Regulation No. 111)	d
20.	Russian Federation	5.	E	Proposal concerning Draft Amendment to Regulation No. 79 (document TRANS/WP.29/GRRF/2002/5/Rev.1) with regard to checking the dynamic stability of the vehicles with electronic steering	c
21.	Russian Federation	5.	E	Position of the Experts of the Russian Federation in regards to Draft Amendments to Regulations No. 79 (document TRANS/WP.29/GRRF/2002/5/Rev.1)	c
22.	United States of America	2.	E	Harmonization of Motorcycle Braking Requirements	a

No.	Transmitted By	Agenda item	Language	Title	Follow-up
23.	ISO		E	Road vehicles endurance braking systems of motor vehicles and towed vehicles and test procedures ISO CD 12161 Doc. TC22/SC2 N 597	a
24.	ETRTO	6.1.	E	Global Technical Regulation	a
25.	ETRTO	6.2.	E	UNECE Regulations Proposal for Optimization of Regulatory Framework and Tyre Type Approval	a
26.	United Kingdom	4.	E	Regulation No. 111, paragraph 7.2.	d
27	Germany	1.3.	E	Draft amendments to Regulation No. 13	a
28	United Kingdom	1.3	E	Draft amendments to Regulation No. 13	a

Notes:

- (a) Consideration completed or superseded
 - (b) Continue consideration at the next session with official symbol
 - (c) Continue consideration at the next session as informal document
 - (d) Adopted
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Annex 2

DRAFT AMENDMENTS TO REGULATION No. 13 ADOPTED BY GRRF AT ITS FIFTY-FIFTH SESSION

(see paragraph 12. of the report)

Insert new paragraphs 5.2.1.30. to 5.2.1.30.6., to read:

- "5.2.1.30. Generation of a signal to illuminate stop lamps.
- 5.2.1.30.1. Activation of the service braking system by the driver shall generate a signal that will be used to illuminate the stop lamps.
- 5.2.1.30.2. Signal generation applicable to Endurance Braking systems */
- 5.2.1.30.2.1. It is permitted to generate the signal in conjunction with the operation of an endurance braking system but except when the retardation is generated by the engine braking alone.
- 5.2.1.30.2.2. A signal shall be generated by the operation of an endurance braking system which has sufficient power to produce a vehicle deceleration $\geq 2.2\text{m/sec}^2$ under the following conditions:
- a) at an initial speed of 80km/h;
 - b) in a gear which is normally used for running at this speed;
 - c) with the vehicle at its unladen weight.
- 5.2.1.30.2.3. It is permissible to suppress this signal where an endurance braking system is operated so that it does not achieve the above performance due to being at a lower power level or due to the vehicle load condition being higher than that stated above.
- 5.2.1.30.2.4. Where an endurance braking system comes into operation on the release of the accelerator pedal, action shall be taken to prevent intermittent generation of the signal for example, during gear changes.
- 5.2.1.30.3. Activation of the service braking system by "automatically commanded braking" shall generate the signal mentioned above. However, when the retardation generated is less than 0.7 m/s^2 at a vehicle speed greater than 50 km/h the signal may be suppressed. */
- 5.2.1.30.4. Activation of part of the service braking system by "selective braking" shall not generate the signal mentioned above **/.

- 5.2.1.30.5. In the case of vehicles equipped with an electric control line the signal shall be generated by the motor vehicle when a message "illuminate stop lamps" is received via the electric control line from the trailer. ***
- 5.2.1.30.6. Electric regenerative braking systems which, produce a retarding force upon release of the throttle pedal, shall not generate a signal mentioned above".

*/ At the time of Type Approval, compliance with this requirement shall be confirmed by the vehicle manufacturer.

**/ During a "selective braking" event, the function may change to "automatically commanded braking".

***/ This requirement shall not apply until the ISO 11992 Standard has been amended to include a message "illuminate stop lamps".

Insert new paragraphs 5.2.2.21. to 5.2.2.21.2., to read:

"5.2.2.21. Activation of the service braking system.

5.2.2.21.1. In the case of trailers equipped with an electric control line the message "illuminate stop lamps" shall be transmitted by the trailer via the electric control line when the trailer braking system is activated during "automatically commanded braking" initiated by the trailer. However, when the retardation generated is less than 0.7 m/s^2 at a vehicle speed greater than 50 km/h the signal may be suppressed. * ***

5.2.2.21.2. In the case of trailers equipped with an electric control line the message "illuminate stop lamps" shall not be transmitted by the trailer via the electrical control line during "selective braking" initiated by the trailer. ** ****"

*/ At the time of type approval compliance with this requirement shall be confirmed by the vehicle manufacturer.

**/ During a "selective braking" event, the function may change to "automatically commanded braking".

***/ This requirement shall not apply until the ISO 11992 Standard has been amended to include a message "illuminate stop lamps".

****/ This requirement shall not apply until the ISO11992 Standard has been amended to include a message "illuminate stop lamps" and introduced into this Regulation."

Annex 3

DRAFT AMENDMENTS TO REGULATION No. 13 ADOPTED BY GRRF AT ITS FIFTY-FIFTH SESSION

(see paragraph 15. of the report)

1. Proposal for transitional provisions to be included in the 10 series of amendments of Regulation No. 13

Insert a new paragraph 12.1.1.2., to read:

"12.1.1.2. Unless otherwise stated, or unless the context requires otherwise, supplements to the 10 series of amendments shall also apply to the issuing and maintenance of 09 series approvals.

12.1.1.3. As from the official date of entry into force of the 10 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approval under this Regulation as amended by the 10 series of amendments."

Insert new paragraphs 12.1.2.5. to 12.1.2.7., to read:

"12.1.2.5. As from 24 months after the date of entry into force of the 10 series of amendments, Contracting Parties applying this Regulation shall grant approvals only if the vehicle type to be approved meets the requirements of this Regulation as amended by the 10 series of amendments.

12.1.2.6. Until 48 months after the date of entry into force of the 10 series of amendments to this Regulation, no Contracting Party applying this Regulation shall refuse national type approval of a vehicle type approved to the preceding series of amendments to this Regulation.

12.1.2.7. Starting 48 months after the entry into force of the 10 series of amendments to this Regulation, Contracting Parties applying this Regulation may refuse first national registration (first entry into service) of a vehicle which does not meet the requirements of the 10 series of amendments to this Regulation."

2. Proposal for Corrigendum to document TRANS/WP.29/GRRF/2003/29

Paragraph 1.3.1. (a) second indent, amend to read:

"At least one axle of every other axle group shall commence to develop a braking force when the pressure at the coupling head is at a pressure ≤ 1.2 bar."

Paragraph 1.3.1., footnote */, amend to read:

"*/ In the case of multiple axles, where the axle spread is greater than 2.0 m, each individual axle shall be considered as an independent axle group."

Annex 4

DRAFT AMENDMENTS ADOPTED BY GRRF TO DOCUMENT
TRANS/WP.29/GRRF/2003/14/Rev.1 AT THE FIFTY-FIFTH SESSION

(see paragraph 20. of the report)
(Proposal to amend Regulation No. 111)

Paragraph 11.5., amend to read:

"11.5 Stability enhancement system engaged:Yes/No/Not applicable 2/"

Annex 3

Paragraph 5b) and 5c), should be deleted.

Paragraphs 7.2.to 7.4., amend to read:

"7.2. Without prejudice to paragraph 5., if the vehicle fails to achieve the minimum tilt table angle specified in paragraph 5.3.1.1. when tested with a partially filled tank in the maximum mass condition then, subject to the agreement of the type approval authority and appropriate safety considerations being taken into account, the manufacturer or applicant may request that a further test be undertaken with alternative loading conditions as described in paragraph 7.2.1. and 7.2.2. Where the vehicle manufacturer or applicant chooses not to test in accordance with the alternative loading conditions in paragraph 7.2.1. and 7.2.2., the first test result will constitute the final result.

7.2.1. The first alternative condition is the vehicle loaded to its maximum mass and with the tank fully or partially filled with a fluid for which the tank is designed to carry in normal use.

7.2.2. The second alternative condition is the vehicle loaded in excess of its normal maximum mass and with the tank fully filled with a substitute fluid.

7.2.3. If the tank vehicle manufacturer does not agree with the overloading required for the additional test, the vehicle is considered as not having passed the test.

7.3. In the case where the vehicle is tested in the fully filled condition, the values of the test tilt table inclination angle β_f shall be corrected using the following formulae:

$$\tan \beta_p = \tan \beta_f \cdot \frac{A_T \cdot H_f}{A_f \cdot H_g} + \frac{T_T}{2 H_g} \left(1 - \frac{A_T}{A_f} \right)$$

The value of β_p shall be higher than, or equal to, the minimum rollover threshold inclination angle required by this Regulation (β_c).

In the formulae:

A_T = vehicle mass in case of loading by normal fluid;

A_f = vehicle mass in case of loading by ~~water~~ a substitute fluid.

$$A_f = A_T + V_l \cdot (\rho_f - \rho_T)$$

H_g, H_f = height of the vehicle centre of gravity in case of loading with normal fluid and a substitute fluid, respectively;

$$H_f = H_g - V_l \cdot (\rho_f - \rho_T) / C_{ST}$$

T_T = theoretical wheel track at the vehicle cross section at the centre-of-gravity point;

β_p = corrected tilt table inclination angle for the fluid which the vehicle is intended to carry;

β_f = the recorded tilt table inclination angle achieved using the substitute fluid;

V_t = effective tank volume;

$$C_{ST} = \frac{A_g}{H_g - H_l}$$

C_{ST} = vertical stiffness of suspension at the centre of gravity point;

A_g = mass of payload;

ρ_T = density of normal fluid;

ρ_f = density of the substitute fluid;

H_l = height of the centre of gravity of the vehicle in running order.

Insert a new paragraph 7.4., to read:

- 7.4. If, in the case of filling a tank with a substitute fluid, the total vehicle mass is less than the maximum permissible mass of a vehicle and the vehicle is intended to carry a fluid having a higher density than that of the test fluid, the recorded value of the rollover threshold inclination angle shall be corrected using the formula given in paragraph 7.2. of this annex. Alternatively, the manufacturer may arrange to provide facilities for the vehicle to be tested using the fluid which it is intended to carry, taking into account any incurred safety risks."
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Annex 5

DRAFT AMENDMENTS ADOPTED BY GRRF AT ITS FIFTY-FIFTH SESSION TO
DOCUMENTS TRANS/WP.29 /GRRF/2002/5/Rev.1 and Rev.1/Add.1

(see paragraph 23. of the report)

Paragraph 0 – Introduction, amend to read:

"0. Introduction

The intention of the Regulation is to establish uniform provisions for the layout and performance of steering systems fitted to vehicles used on the road. Traditionally the major requirement has been that the main steering system contains a positive mechanical link between the steering control, normally the steering wheel, and the road wheels in order to determine the path of the vehicle. The mechanical link, if amply dimensioned, has been regarded as not being liable to failure.

Advancing technology, coupled with the wish to improve occupant safety by elimination of the mechanical steering column, and the production advantages associated with easier transfer of the steering control between left and right hand drive vehicles, has led to a review of the traditional approach and the Regulation is now amended to take account of the new technologies. Accordingly it will now be possible to have steering systems in which there is not any positive mechanical connection between the steering control and the road wheels.

Systems whereby the driver remains in primary control of the vehicle but may be helped by the steering system being influenced by signals initiated on-board the vehicle are defined as "Advanced Driver Assistance Steering Systems". Such Systems can incorporate an "Automatically Commanded Steering Function", for example, using passive infrastructure devices to assist the driver in keeping the vehicle on an ideal path (Lane Guidance, Lane Keeping or Heading Control), to assist the driver in manoeuvring the vehicle at low speed in confined spaces or to assist the driver in coming to rest at a pre-defined point (Bus Stop Guidance). Advanced Driver Assistance Steering Systems can also incorporate a "Corrective Steering Function" that, for example, warns the driver of any deviation from the chosen lane (Lane Departure Warning), corrects the steering angle to prevent departure from the chosen lane (Lane Departure Avoidance) or corrects the steering angle of one or more wheels to improve the vehicle's dynamic behaviour or stability.

In the case of any Advanced Driver Assistance Steering System, the driver can, at all times, choose to override the assistance function by deliberate action, for example, to avoid an unforeseen object in the road.

It is anticipated that future technology will also allow steering to be influenced or controlled by sensors and signals generated either on or off-board the vehicle. This has

led to several concerns regarding responsibility for the primary control of the vehicle and the absence of any internationally agreed data transmission protocols with respect to off-board or external control of steering. Therefore, the Regulation does not permit the general approval of systems that incorporate functions by which the steering can be controlled by external signals, for example, transmitted from roadside beacons or active devices embedded into the road surface. Such systems, which do not require the presence of a driver, have been defined as "Autonomous Steering Systems".

This Regulation also prevents the approval of positive steering of trailers using energy supply and electrical control from the towing vehicle as there are not any standards applicable to energy supply connectors or to control transmission digital information interchange. It is expected that at some time in the future, the International Standards Organization (ISO) Standard, ISO11992, will be amended to take account of transmission of steering control data.

Paragraph 1.2.3., should be deleted.

Paragraphs 1.2.4. and 1.2.5., renumber as paragraphs 1.2.3. and 1.2.4.

Section 2 - Definitions

Paragraphs 2.3.4.1. and 2.3.4.2., amend to read:

- "2.3.4.1. "Automatically commanded steering function" means the function within a complex electronic control system where actuation of the steering system can result from automatic evaluation of signals initiated on-board the vehicle, possibly in conjunction with passive infrastructure features, to generate continuous control action in order to assist the driver in following a particular path, in low speed manoeuvring or parking operations.
- 2.3.4.2. "Corrective steering function" means the discontinuous control function within a complex electronic control system whereby, for a limited duration, changes to the steering angle of one or more wheels can result from the automatic evaluation of signals initiated on-board the vehicle, in order to maintain the basic desired path of the vehicle or to influence the vehicle's dynamic behaviour.

Systems that do not themselves positively actuate the steering system but that, possibly in conjunction with passive infrastructure features, simply warn the driver of a deviation from the ideal path of the vehicle, or of an unseen hazard, by means of a tactile warning transmitted through the steering control, are also considered to be corrective steering."

Insert new paragraph 5.1.6.1., to read:

- "5.1.6.1. Whenever the Automatically Commanded Steering function becomes operational, this shall be indicated to the driver and the control action shall be automatically disabled if the vehicle speed exceeds the set limit of 10 km/h by more than 20 per cent or the signals to be evaluated are no longer being received.

Any termination of control shall produce a short but distinctive driver warning by a visual signal and either an acoustic signal or by imposing a tactile warning signal on the steering control."

Paragraph 5.5.1., amend to read:

"5.5.1. As far as practicable and subject to agreement between the vehicle manufacturer and the type approval authority, the steering equipment and its installation shall be so designed that, without disassembly, its operation can be checked with, if necessary, commonly used measuring instruments, methods or test equipment."

Annex 6.

Paragraph 2.6., the square brackets should be deleted.

Paragraph 3.3.4., amend to read:

" ...
...shall be stated wherever..."

Annex 6

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1/ To be determined
