



**Economic and Social
Council**

Distr.
GENERAL

ECE/TRANS/WP.29/GRRF/67
13 April 2010

Original: ENGLISH

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

World Forum for Harmonization of Vehicle Regulations

Working Party on Brakes and Running Gear

**REPORT OF THE WORKING PARTY ON BRAKES AND RUNNING GEAR
ON ITS SIXTY-SEVENTH SESSION
(2 – 5 February 2010)**

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I. ATTENDANCE

1. The Working Party on Brakes and Running Gear (GRRF) held its sixty-seventh session from 2-5 February 2010 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, as amended): Australia, Belgium, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Hungary, India, Italy, Japan, Netherlands, Poland, Russian Federation, Slovakia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland and United States of America. Representatives of the European Commission (EC) also participated. Experts from the following non-governmental organizations participated: European Association of Automobile Suppliers (CLEPA), International Motorcycle Manufacturers Association (IMMA), International Organization for Standardization (ISO), and International Organization of Motor Vehicle Manufacturers (OICA). Upon the special invitation of the Chairman, experts from the following non-governmental organizations participated: the Bureau International Permanent des Associations de Vendeurs et Rechapeurs de pneumatiques (BIPAVÉR), the International Association of the Body and Trailer Building Industry (CLCCR), the European Tuning Organization (ETO), the European Tyre and Rim Technical Organization (ETRTO), the Federation of European Manufacturers of Friction Materials (FEMFM) and the Transportation Technical Supervision (TDT).

2. The informal documents distributed during the session are listed in Annex I to this report.

II. ADOPTION OF THE AGENDA (Agenda item 1)

Documentation: ECE/TRANS/WP.29/GRRF/2010/1, informal document No. GRRF-67-01

3. GRRF adopted the agenda ECE/TRANS/WP.29/GRRF/2010/1 as well as the running order GRRF-67-01.

III. AUTOMATIC EMERGENCY BRAKING AND LANE DEPARTURE WARNING SYSTEMS (Agenda item 2)

Documentation: Informal documents Nos. GRRF-67-04 and GRRF-67-20

4. The Chairman of the informal group on automatic emergency braking and lane departure warning systems (AEBS/LDW) reported on the progress of work made by the informal group (GRRF-67-04). He announced that a proposal on LDW should be submitted to GRRF, for consideration at its September 2010 session, on the basis of GRRF-67-20. He added that further discussion was needed for AEBS. GRRF confirmed its preference for the inclusion of the new requirements on AEBS/LDW in new stand-alone regulations in order to allow more flexibility for the adoption of these new technologies by the Contracting Parties. GRRF noted that this regulatory choice was compatible with the timeline expected (February 2011), provided that more informal meetings be scheduled for AEBS. GRRF also agreed that no introductory (i.e. transitional) provisions were needed for new regulations. GRRF agreed to hold a meeting of the informal group on AEBS/LDW, on Monday prior to the next September 2010 session of GRRF.

IV. REGULATIONS Nos. 13 AND 13-H (Braking) (Agenda item 3)

A. Emergency Stop Signal (ESS) (Agenda item 3(a))

Documentation: ECE/TRANS/WP.29/GRRF/2010/10, ECE/TRANS/WP.29/GRRF/2010/10/Corr.1 and informal documents Nos. GRRF-66-25 and GRRF-67-22

5. The expert from OICA presented GRRF-67-22 superseding ECE/TRANS/WP.29/GRRF/2010/10 and its Corrigendum 1 on the illumination of stop lamps when the electric regenerative braking produces a certain deceleration. GRRF adopted GRRF-67-22 as reproduced in Annex II to this report, and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their June 2010 sessions, as part (see para. 13) of draft Supplement 11 to Regulation No. 13-H. The expert from OICA withdrew GRRF-66-25 and volunteered to prepare a revised proposal for consideration by GRRF at its September 2010 session.

B. Secondary coupling for unbraked trailers (Agenda item 3(b))

Documentation: ECE/TRANS/WP.29/GRRF/2009/12

6. The expert from the United Kingdom recalled that the purpose of ECE/TRANS/WP.29/GRRF/2009/12 was to move secondary coupling requirements for light trailers from Regulation No. 13 to Regulation No. 55. This document was considered in conjunction with item 5 of the agenda. GRRF adopted ECE/TRANS/WP.29/GRRF/2009/12, not amended, and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their June 2010 sessions, as part (see paras. 7, 8, 9, 12, 13 and 15) of draft Supplement 5 to the 11 series of amendments to Regulation No. 13.

C. Trailer braking (Agenda item 3(c))

Documentation: ECE/TRANS/WP.29/GRRF/2009/28, ECE/TRANS/WP.29/GRRF/2010/2, ECE/TRANS/WP.29/GRRF/2010/5, ECE/TRANS/WP.29/GRRF/2010/7, ECE/TRANS/WP.29/GRRF/2010/11, informal documents Nos. GRRF-67-06, GRRF-67-06-Rev.1 and GRRF-67-08

7. The expert from Germany introduced GRRF-67-06-Rev.1 superseding GRRF-67-06, ECE/TRANS/WP.29/GRRF/2009/28 and ECE/TRANS/WP.29/GRRF/2010/2 and proposing to allow O₃ trailers to be type-approved on the basis of Type-III test results. GRRF adopted GRRF-67-06-Rev.1 as reproduced in Annex III to this report, and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their June 2010 sessions, as part (see paras. 6, 8, 9, 12, 13 and 15) of draft Supplement 5 to the 11 series of amendments to Regulation No. 13.

8. The expert from the United Kingdom presented ECE/TRANS/WP.29/GRRF/2010/5 introducing a calculation method to check that the braking torque of the trailer parking brake is evenly distributed to wheels on either side of the axle(s). GRRF adopted ECE/TRANS/WP.29/GRRF/2010/5, as amended below, and requested the secretariat to submit it

to WP.29 and AC.1, for consideration at their June 2010 sessions, as part (see paras. 6, 7, 9, 12, 13 and 15) of draft Supplement 5 to the 11 series of amendments to Regulation No. 13.

Page 3, Annex 12, new paragraph 8.1.2., line 4

For yolks read yokes

9. The expert from the United Kingdom introduced ECE/TRANS/WP.29/GRRF/2010/7 revising the circumstances when spring brakes are applied following the loss of pressure in the service braking system on an uncoupled trailer. GRRF agreed with the improvement of the wording of ECE/TRANS/WP.29/GRRF/2010/7 proposed by the expert from CLEPA in GRRF-67-08. Consequently, GRRF adopted ECE/TRANS/WP.29/GRRF/2010/7, as amended below, and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their June 2010 sessions, as part (see paras. 6, 7, 8, 12, 13 and 15) of draft Supplement 5 to the 11 series of amendments to Regulation No. 13.

Annex 8, new paragraph 2.8., amend to read:

"2.8. Trailers which utilise the service braking system **energy reserves** to fulfil... released position (spring brakes not applied):

- (a) When the energy reserves of the service braking system reduce to a pressure no lower than **280 kPa**, **the pressure in the spring brake compression chamber shall reduce to 0 kPa to fully apply the spring brakes. This requirement shall be verified with a constant service braking system energy reserve pressure of 280 kPa.**
- (b) A reduction in the pressure within the service braking **system energy reserve** results in ..."

10. The expert from CLEPA withdrew ECE/TRANS/WP.29/GRRF/2010/11. He volunteered to prepare, for the next September 2010 session of GRRF, a revised proposal to extend the scope of Annex 20 of Regulation No. 13 to trailers with more than three axles.

D. Clarifications (Agenda item 3(d))

Documentation: ECE/TRANS/WP.29/GRRF/2010/3, ECE/TRANS/WP.29/GRRF/2010/13, ECE/TRANS/WP.29/GRRF/2010/16, ECE/TRANS/WP.29/GRRF/2010/17, informal documents Nos. GRRF-67-23, GRRF-67-23-Rev.1, GRRF-67-29 and GRRF-67-31

11. The expert from CLEPA presented GRRF-67-23-Rev.1 superseding GRRF-67-23 and ECE/TRANS/WP.29/GRRF/2010/3 and amending Regulation No. 13 to ensure that a trailer equipped with electric control line will always brake when the driver activates the braking system. A number of experts required more justification on this proposal (i.e. examples). GRRF agreed to resume consideration of this subject on the basis of a revised proposal to be prepared by the expert from CLEPA.

12. The expert from CLEPA introduced ECE/TRANS/WP.29/GRRF/2010/13 clarifying the wording used for a failure of the electric control transmission and the anti-lock braking system. GRRF adopted ECE/TRANS/WP.29/GRRF/2010/13, as amended below (see also consolidated proposal in GRRF-67-29), and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their June 2010 sessions, as part (see paras. 6, 7, 8, 9, 13 and 15) of draft Supplement 5 to the 11 series of amendments to Regulation No. 13.

Page 2, line 2

For Paragraph 5.2.1.23. read Paragraph 5.1.2.23.

Page 2, amendment to paragraph 5.2.1.29.2. line 1

Delete With the exception of vehicles of category N₁,

13. The expert from the Netherlands introduced ECE/TRANS/WP.29/GRRF/2010/16, and ECE/TRANS/WP.29/GRRF/2010/17 aligning the maximum test speeds used respectively in Regulations Nos. 13 and 13-H. GRRF adopted ECE/TRANS/WP.29/GRRF/2010/16, not amended, and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their June 2010 sessions, as part (see paras. 6, 7, 8, 9, 12 and 15) of draft Supplement 5 to the 11 series of amendments to Regulation No. 13. GRRF adopted GRRF-67-31 superseding ECE/TRANS/WP.29/GRRF/2010/17 and requested the secretariat to submit it, as reproduced below, to WP.29 and AC.1 for consideration at their June 2010 sessions, as part (see para. 5) of draft Supplement 11 to Regulation No. 13-H.

Annex 3, paragraph. 1.2.9., amend to read:

"1.2.9. For vehicles as described in paragraph 1.2.8. above, fitted with an electric regenerative braking system of category A, behaviour tests shall be carried out on a track with a low adhesion coefficient (as defined in paragraph 5.2.2. of Annex 6) **at a speed equal to 80 per cent of the maximum speed but not exceeding 120 km/h, to check that stability is retained.**"

E. Electronic Vehicle Stability Control (EVSC) (Agenda item 3(e))

Documentation: ECE/TRANS/WP.29/GRRF/2010/8, ECE/TRANS/WP.29/GRRF/2010/12, ECE/TRANS/WP.29/GRRF/2010/12/Corr.1, informal documents Nos. GRRF-67-05, GRRF-67-11, GRRF-67-17, GRRF-67-21 and GRRF-67-30.

14. GRRF considered ECE/TRANS/WP.29/GRRF/2010/8 and GRRF-67-17 relating to the tell-tale to be used for the vehicle stability function. GRRF agreed that such a tell-tale requirement should be introduced in Regulation No. 121 (Identification of controls, tell-tales and indicators) rather than in Regulation No. 13. The expert from the United Kingdom volunteered to prepare the corresponding draft proposal to Regulation No. 121, for consideration by the Working Party on General Safety Provisions (GRSG) at its May 2010 session.

15. The expert from CLCCR introduced GRRF-67-11 proposing to exempt market vehicles from stability control requirements. She explained that GRRF-67-11 superseded ECE/TRANS/WP.29/GRRF/2010/12 and ECE/TRANS/WP.29/GRRF/2010/12/Corr.1. GRRF adopted GRRF-67-11, as amended below, and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their June 2010 sessions, as part (see paras. 6, 7, 8, 9, 12 and 13) of draft Supplement 5 to the 11 series of amendments to Regulation No. 13.

Paragraph 5.2.1.32., footnote 12/, amend to read:

"12/ Off-road vehicles, special purpose vehicles (e.g. mobile plant using non standard vehicle chassis, mobile cranes, hydro-static driven vehicles in which the hydraulic drive system is also used for braking and auxiliary functions, **N₂ vehicles which have all of the following features : a gross vehicle mass between 3.5 and 7.5 tonnes, a non-standard low-frame extended chassis, more than 2 axles and hydraulic transmission**), Class I and Class A buses of categories M₂ and M₃, articulated buses and coaches, N₂ tractors for semi-trailer with a gross vehicle mass (GVM) between 3.5 and 7.5 tonnes, shall be excluded from this requirement."

16. GRRF recalled that WP.29 had given its consent for the set up of an informal group on an alternative method to assess the vehicle stability system in the same way as trailer components (AMEVSC). The expert from CLEPA presented GRRF-67-05 on the main issues to be tackled by the group. GRRF agreed that the group would be chaired by Mr. Loccufier (Belgium). CLEPA volunteered to provide secretariat services. GRRF considered the draft terms of reference and rules of procedure (GRRF-67-30) and adopted them as reproduced in Annex IV.

17. GRRF did not have the time to consider GRRF-67-21 proposing to harmonize the texts of global technical regulation (gtr) No. 8 and Regulation Nos. 13 and 13-H and agreed to keep this document on the agenda as a reference document for consideration at its September 2010 session. The GRRF Chairman recalled that, to be adopted, an amendment to a gtr should follow the same procedure as a new gtr.

F. Other business (Agenda item 3(f))

Documentation: Informal documents Nos. GRRF-67-15, GRRF-67-18 and GRRF-67-32

18. The expert from Sweden presented GRRF-67-15 and GRRF-67-32 asking for guidance on fully automated coupling systems (FACS). GRRF supported in principal the development of harmonized requirements for FACS. GRRF agreed to resume the consideration of this subject at its next session on the basis of a concrete proposal from Sweden.

19. The expert from India introduced GRRF-67-18 clarifying the text of Regulation No. 13-H. GRRF agreed to consider in detail this document at its session and requested the secretariat to make GRRF-67-18 available with an official symbol.

V. MOTORCYCLE BRAKING (Agenda item 4)

Documentation: ECE/TRANS/WP.29/GRRF/2010/14 and ECE/TRANS/WP.29/GRRF/2010/15

20. The expert from Canada introduced ECE/TRANS/WP.29/GRRF/2010/14 and ECE/TRANS/WP.29/GRRF/2010/15 clarifying respectively gtr No. 3 and Regulation No. 78. to keep the two texts consistent. GRRF adopted both documents, not amended, and requested the secretariat to submit them to WP.29, AC.1 and AC.3, for consideration at their June 2010 sessions, respectively as Corrigendum 2 to gtr 3 and as Corrigendum 2 to the 03 series of amendments to Regulation No. 78. The GRRF Chairman agreed to inform WP.29 and AC.3, at their March 2010 session, of the upcoming Corrigendum to gtr No. 3.

VI. REGULATION No. 55 (Mechanical couplings) (Agenda item 5)

Documentation: ECE/TRANS/WP.29/GRRF/2009/29, ECE/TRANS/WP.29/GRRF/2009/32, informal documents Nos. GRRF-66-20 and GRRF-67-27

21. The expert from the United Kingdom recalled ECE/TRANS/WP.29/GRRF/2009/32 proposing to mandate the fitting of a secondary coupling attachment point or device on unbraked O₁ trailers (see also agenda item 3(b)). After discussion, GRRF adopted ECE/TRANS/WP.29/GRRF/2009/32, as modified below and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their June 2010 sessions, as Supplement 2 to the 01 series of amendments to Regulation No. 55. Consequently, the expert from Germany withdrew ECE/TRANS/WP.29/GRRF/2009/29 and GRRF-66-20.

Page 2, amendment to Annex 5, paragraph 2.1.

After Coupling heads insert for a tractive force up to 800 kg

22. The expert from OICA presented GRRF-67-27 showing that, with the present requirements, a secondary coupling may not be able, to prevent the trailer drawbar from touching the ground in certain circumstances. GRRF agreed to resume consideration of this subject, at its next September 2010 session, on the basis of a concrete joint proposal from OICA/CLEPA.

VII. REGULATION No. 90 (Replacement brake linings) (Agenda item 6)

Documentation: ECE/TRANS/WP.29/GRRF/2009/23/Rev.1, ECE/TRANS/WP.29/GRRF/2009/24, ECE/TRANS/WP.29/GRRF/2009/25, ECE/TRANS/WP.29/GRRF/2010/6, ECE/TRANS/WP.29/GRRF/2010/9, informal documents Nos. GRRF-67-02, GRRF-67-13, GRRF-67-14-Rev.1 and GRRF-67-24

23. GRRF considered ECE/TRANS/WP.29/GRRF/2009/23/Rev.1 introducing replacement brake discs and drums in the scope of Regulation No. 90. GRRF agreed with the changes to ECE/TRANS/WP.29/GRRF/2009/23/Rev.1 proposed by the secretariat in GRRF-67-02 clarifying the scope and the transitional provisions of the Regulation. In particular, GRRF agreed that original replacement brake discs and drums should not be type approved as they were part of the original brake system approval and, therefore, should be clearly out of the scope of

the Regulation. Consequently, GRRF agreed to remove the brackets in paragraph 1.2. of GRRF-67-02. Moreover, GRRF expressed preference for adopting the provisions of ECE/TRANS/WP.29/GRRF/2009/23/Rev.1 as a new series of amendments. Due to the lack of time, GRRF could not consider in detail GRRF-67-14-Rev.1 by CLEPA. The expert from CLEPA volunteered to prepare a revised proposal taking into account the amendments agreed here above. GRRF agreed to have a final review of this subject at its next session and requested the secretariat to prepare a revised version of ECE/TRANS/WP.29/GRRF/2009/23/Rev.1, incorporating the changes proposed in GRRF-67-02. GRRF agreed to continue consideration at its next session of ECE/TRANS/WP.29/GRRF/2009/24, ECE/TRANS/WP.29/GRRF/2009/25 and GRRF-67-24 and requested the secretariat to make the latter available with an official symbol.

24. The expert from the United Kingdom presented ECE/TRANS/WP.29/GRRF/2010/9 and GRRF-67-13, both updating, in Regulation No. 90, the references made to ISO 6310 and to Regulations Nos. 13 and 13-H. GRRF adopted ECE/TRANS/WP.29/GRRF/2010/9, as amended by Annex V, and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their June 2010 sessions, as Corrigendum 1 to Revision 2 of Regulation No. 90.

25. The expert from ETO introduced ECE/TRANS/WP.29/GRRF/2010/6 proposing to clarify that special parts should remain under national type approval legislation. GRRF considered that such a clarification might not be helpful since those parts were already excluded from the scope of the Regulation and moreover, they were not necessarily covered by a type approval at national level.

VIII. REGULATION No. 79 (Steering equipment) (Agenda item 7)

26. GRRF noted that no new information was provided under this agenda item. GRRF agreed to remove this item the agenda for its next session.

IX. REGULATION No. 89 (Speed limitation devices) (Agenda item 8)

Documentation: ECE/TRANS/WP.29/GRRF/2010/4

27. The expert from the EC presented ECE/TRANS/WP.29/GRRF/2010/4 extending the scope of Regulation No. 89 to vehicles of category M₂. GRRF adopted the document, not amended, and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their June 2010 sessions, as Supplement 2 to Regulation No. 89.

X. TYRES (Agenda item 9)

A. Harmonization of tyre Regulations (Agenda item 9(a))

Documentation: Informal documents Nos. GRRF-67-19 and GRRF-67-26-Rev.1

28. With regard to the development of the draft gtr on tyre, the GRRF Chairman recalled that, AC.3 had endorsed, at its November 2009 session (ECE/TRANS/WP.29/1079, para. 99), the two-step approach proposed by GRRF at its sixty fifth session (ECE/TRANS/WP.29/GRRF/65,

para. 36). He explained that AC.3 had however requested the technical sponsor to provide a revision of the schedule and of the objectives of the two steps, for consideration by GRRF at its February 2010 session and consideration by AC.3 at its March 2010 session. The Chairman further added that AC.3 had agreed to work on the administrative marking issue separately. The expert from EC recalled his wish to include rolling resistance requirements in the gtr. He announced that the European Union would make a proposal in this direction to WP.29/AC.3, for consideration at their March 2010 sessions. Informal documents Nos. GRRF-67-19 from India and GRRF-67-26-Rev.1 from China were referred to the informal group on the tyre gtr which met on 5 February after the GRRF session proper. GRRF agreed to hold, subject to the consent of WP.29, a meeting of the informal group on the tyre gtr on the Friday after the September 2010 proper session of GRRF.

B. Regulations Nos. 30 and 54 (Pneumatic tyres) (Agenda item 9(b))

29. GRRF noted that no new information was provided under this agenda item and agreed to remove this item from the agenda of its next session unless new proposals were received.

C. Regulation No. 106 (Pneumatic tyres for agricultural vehicles) (Agenda item 9(c))

30. GRRF noted that no new information was provided under this agenda item and agreed to remove this item from the agenda of its next session unless new proposals were received.

D. Regulation No. 124 (Replacement wheels) (Agenda item 9(d))

Documentation: ECE/TRANS/WP.29/GRRF/2009/30, Informal documents Nos. GRRF-66-13 GRRF-66-27, GRRF-67-09 and GRRF-67-09-Rev.1

31. The expert from Germany presented ECE/TRANS/WP.29/GRRF/2009/30 extending the scope of Regulation No. 124 and GRRF-67-09 consolidating GRRF-66-13 and GRRF-66-27. GRRF amended GRRF-67-09 during the meeting as reproduced in GRRF-67-09-Rev.1. GRRF adopted ECE/TRANS/WP.29/GRRF/2009/30 as amended by GRRF-67-09-Rev.1. GRRF requested the secretariat to also correct the use of the word inset/outset in the text of the Regulation. The secretariat was requested to submit the proposal, as reproduced in Annex VI, to WP.29 and AC.1 for consideration at their June 2010 sessions, as draft Supplement 1 to Regulation No. 124.

E. Tyre Pressure Monitoring Systems (TPMS) (Agenda item 9(e))

Documentation: ECE/TRANS/WP.29/2009/129, ECE/TRANS/WP.29/2009/129/Corr.1, ECE/TRANS/WP.29/2009/129/Corr.2, ECE/TRANS/WP.29/2009/129/Corr.3, informal documents Nos. GRRF-67-03, GRRF-67-07 and GRRF-67-07-Rev.1

32. As requested by WP.29 at its November 2009 session (see report ECE/TRANS/WP.29/1079, paras. 33, 46 and 60), GRRF considered a draft corrigendum (GRRF-67-03 and GRRF-67-07) to the 02 series of amendments to Regulation No. 64 (ECE/TRANS/WP.29/2009/129 and its Corrigenda 1, 2 and 3). GRRF adopted GRRF-67-07-Rev.1, as reproduced in Annex VII, and requested the secretariat to submit it to

WP.29 and AC.1 for consideration at their March 2010 sessions, as Corrigendum 1 to the 02 series of amendments to Regulation No. 64.

F. Regulation No. 117 (Tyre rolling resistance) (Agenda item 9(f))

Documentation: ECE/TRANS/WP.29/GRB/2010/3, Informal documents Nos. GRRF-67-10, GRRF-67-12, GRRF-67-16, GRRF-67-25, GRRF-67-28, GRRF-67-33, GRRF-67-34, GRRF-67-35 and GRB-51-01

33. The secretary (EC) of the informal group on Special Tyre Definitions (STD) gave a presentation on the new requirements applicable in the European Union (EU) for tyre wet grip, rolling noise and rolling resistance (GRRF-67-33). The Chairman (EC) of the STD informal group reported on the discussion of the informal group (GRRF-67-34) and presented ECE/TRANS/WP.29/GRB/2010/3 introducing into Regulation No. 117 new requirements on sound emissions, wet grip and rolling resistance. He explained that this proposal would be considered in detail by the Working Party on Noise (GRB) at its fifty-first session (15-17 February 2010).

34. GRRF considered ECE/TRANS/WP.29/GRB/2010/3, with a focus on the definitions of special tyres (snow tyres, traction tyres and off-road tyres) which would also be used in the future in Regulations Nos. 30 and 54. GRRF supported in general the definitions proposed by ECE/TRANS/WP.29/GRB/2010/3. A number of experts were of the opinion that the transitional provisions and the marking requirements applying to snow and M/S tyres should be clarified. Furthermore, the expert from Germany, supported by the expert from Denmark, found that the performance requirements for the classification as snow tyres were too low and this could be a way to bypass the limits applicable to summer tyres. GRRF agreed that GRB-51-01, GRRF-67-12, GRRF-67-16, GRRF-67-25, GRRF-67-28 and GRRF-67-35, all amending ECE/TRANS/WP.29/GRB/2010/3 should be considered by GRB, because they related to the measuring method for rolling resistance.

35. The expert from Denmark introduced GRRF-67-10 showing that the method used for wet grip may lead to contradictory results. GRRF agreed to resume consideration of this subject at its next session on the basis of a concrete proposal by the expert from Denmark.

G. Exchange of information on national and international tyre requirements (Agenda item 9(g))

36. GRRF noted that no new information was provided under this agenda item and agreed to defer consideration of this subject to its next session.

XI. OTHER BUSINESS (Agenda item 10)

A. Exchange of information on national and international requirements on primary safety (Agenda item 12(a))

37. The expert from Australia informed GRRF of the legislative process in his country for type approval and its link with UNECE regulations.

XII. PROVISIONAL AGENDA FOR THE NEXT SESSION

38. GRRF did not consider the agenda for its sixty-eighth session. GRRF agreed, as a general rule, that agenda items with no official document should be deleted from the agenda. GRRF requested the secretariat to move, if possible and subject to the consent of WP.29, the proper session of GRRF of half a day, the effect being that GRRF would be held from 21 (9.30 a.m.) to 23 (5.30 p.m.) September 2010. GRRF also requested the secretariat to arrange a room reservation for 20 September (from 10.30 a.m.) for the informal group on AEBS/LDW and the 24 September (from 9.30 a.m.) for the informal group on the tyre gr. It was agreed that the Chairman, jointly with the secretariat, would propose a draft agenda. The deadline for the submission of official documents to that session is 25 June 2010. 1/

1/ To help delegates make arrangements for travel and accommodation, the Chairman advises delegates that tyre items should be discussed at the end of the session.

Annex ILIST OF INFORMAL DOCUMENTS DISTRIBUTED WITHOUT A SYMBOL
DURING THE SESSION (GRRF-67-....)

No.	Transmitted by	Agenda item	Language	Title	Follow- up
01	Chairman	-	E	Running order of the provisional agenda of the 66th session of GRRF	(a)
02	Secretariat	6	E	Proposal for amendments to ECE/TRANS/WP.29/GRRF/2009/23/Rev.1 (Regulation No. 90 - Replacement brake lining)	(a)
03	Secretariat	9(e)	E	Proposal for amendments to the 02 series of amendments to Regulation No. 64 (TPMS)	(a)
04	Chairman AEBS/LDW informal group	2	E	Report on the activities of the AEBS/LDW informal group	(a)
05	CLEPA	3(e)	E	Proposed amendment to extend Annex 19 and Annex 20 to cover motor vehicles, especially a vehicle stability function	(a)
06 +Rev.1	Germany	3(c)	E	Proposal for an amendment to Regulation No. 13 (Trailer braking)	(c)
07 + Rev.1	OICA	2	E	Proposal for a corrigendum to the 02 series of amendments to Regulation No. 64 (Temporary use spare wheels)	(c)
08	CLEPA	3(c)	E	Draft amendments to Regulation No.13 (Trailer braking)	(c)
09+ Rev.1	Germany	9(d)	E	Amendments to Regulation No. 124 (Replacement wheels)	(c)
10	Denmark	9(f)	E	Regulation 117 (Tyre rolling noise and wet grip adhesion)- Tyre wet grip adhesion results/ conflict with other test results	(a)
11+ Rev.1	CLCCR	3(e)	E	Proposal for amendments to Regulation No. 13 (EVSC)	(c)
12	OICA	9(f)	E	OICA comments to ECE/TRANS/WP.29/GRB/2010/3 (Tyres rolling noise and wet grip adhesion)	(a)

No.	Transmitted by	Agenda item	Language	Title	Follow- up
13	United Kingdom	6	E	Proposal for amendments to ECE/TRANS/WP.29/GRRF/2010/9 - Regulation No. 90 (Replacement brake lining)	(c)
14+ Rev.1	CLEPA	6	E	Proposal for amendments to ECE/TRANS/WP.29/GRRF/2009/Rev.1- Regulation No. 90 (Replacement brake lining)	(a)
15	Sweden	3(f)	E	Consultation concerning a draft amendment to Regulation No. 13	(a)
16	France	9(f)	E	Proposal for amendments to ECE/TRANS/WP.29/GRB/2010/3 - Regulation No. 117 (Tyres rolling noise and wet grip adhesion)	(a)
17	India	3(e)	E	India's comments on proposed amendments to ECE/TRANS/WP.29/GRRF/2010/8 (EVSC)	(a)
18	India	3(f)	E	Proposal for draft amendments to Regulation No. 13-H	(b)
19	India	9(a)	E	Proposal for test procedures for the harmonized High Speed Test and the Endurance / Low Pressure Test, for consideration in the Tyre GTR.	(a)
20	AEBS/LDW secretariat	2	E	Proposal for a regulation on lane departure warning systems	(a)
21	OICA	3(e)	E	Draft Proposal for amendments to Regulations Nos. 13, 13-H and gtr No. 8 (ESC)	(d)
22	OICA	3(a)	E	Proposal for amendments to ECE/TRANS/WP.29/GRRF/2010/10 - Regulation No. 13-H (Emergency Stop Signal)	(c)
23+ Rev.1	CLEPA	3 (d)	E	Proposal for amendments to ECE/TRANS/WP.29/GRRF/2010/3 - Regulation No. 13 (Clarifications)	(a)
24	CLEPA/OICA	6	E	Proposal for amendments to ECE/TRANS/WP.29/GRRF/2009/23/Rev.1 (Regulation No. 90 - Replacement brake lining)	(b)

No.	Transmitted by	Agenda item	Language	Title	Follow- up
25	Netherlands	9(f)	E	Recent experiences in the Netherlands with Regulation No. 117 (Tyre rolling noise and wet grip adhesion)	(a)
26	China	9(a)	E	Proposal for amendment to tyre gtr-08-01e	(a)
27	OICA	5	E	Proposal for amendments to Regulation No. 55 (Mechanical couplings)	(a)
28	Japan	9(f)	E	Proposal for amendments to ECE/TRANS/WP.29/GRB/2010/3 - Regulation No. 117 (Tyres rolling noise and wet grip adhesion)	(a)
29	Secretariat	3(d)	E	Adopted amendments to ECE/TRANS/WP.29/GRRF/2010/13 - Regulation No. 13 (Clarifications)	(c)
30	AMEVSC Chairman	3(e)	E	Draft terms of reference and rules of procedure of the informal group on an Alternative Method to assess the EVSC of motor vehicles (AMEVSC)	(c)
31	Secretariat	3(d)	E	Adopted amendments to ECE/TRANS/WP.29/GRRF/2010/17 - Regulation No. 13-H (Clarifications)	(c)
32	Sweden	3(f)	E	Consultation concerning a draft amendment to Regulation No. 13 (FACS)	(a)
33	EC	9(f)	E	New EU Regulation on General Safety - Implementation of Tyre Aspects	(a)
34	EC	9(f)	E	Proposal for Draft Amendment to Regulation No. 117	(a)
35	Japan	9(f)	E	Proposal for Alignment procedure using RRC value among Technical Services	(a)

No.	Transmitted by	Agenda item	Language	Title	Follow- up
Reconsideration of informal documents from the previous sessions of GRRF and WP.29 (referring to agenda item and follow-up decision of the current session)					
66-13	Germany	9(d)	E	Amendments to Regulation No. 124 (Replacement wheels)	(a)
66-20	Germany	5	E	Informal paper for clarification to ECE/TRANS/WP.29/GRRF/2009/29 and ECE/TRANS/WP.29/GRRF/2009/32	(a)
66-25	OICA	3(a)	E	Proposal for amendments to Regulation No. 13-H (Emergency Stop Signal)	(a)
66-27	OICA	9(a)	E	Proposal for draft amendments to document GRRF/2009/30 (Regulation No. 124- Replacement wheels)	(a)

Notes:

- (a) Consideration completed or superseded
- (b) Continue consideration at the next session with an official symbol
- (c) Adopted and to be submitted to WP.29
- (d) Reference document for further sessions

Annex II

PROPOSAL FOR AMENDMENTS TO REGULATION No. 13-H (EMERGENCY STOP SIGNAL)

GRRF-67-22 adopted as follows

(see para. 5 of this report)

The modifications to the present text of the regulation are shown in bold characters

Paragraph 5.2.22.4., amend to read (inserting also a reference to the existing footnote 6/):

"5.2.22.4. Electric regenerative braking systems **as defined in paragraph 2.17.**, which produce a retarding force upon release of the **accelerator control, shall generate the signal mentioned above according to the following provisions:**

Vehicle decelerations	Signal generation
$\leq 0.7 \text{ m/s}^2$	The signal shall not be generated
$> 0.7 \text{ m/s}^2 \text{ and } \leq 1.3 \text{ m/s}^2$	The signal may be generated
$> 1.3 \text{ m/s}^2$	The signal shall be generated

In all cases the signal shall be de-activated at the latest when the deceleration has fallen below 0.7 m/s^2 . 6/

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

Amend paragraphs 12.2. and 12.3., to read:

"12.2. As from 1 November 2011, Contracting Parties applying this Regulation may refuse to grant national or regional type approval if the vehicle type does not meet the requirements of this Regulation as amended by Supplement 9 **or Supplement 10 or Supplement 11** and is not fitted with an Electronic Stability Control System and a Brake Assist System, both meeting the requirements of Annex 9 to this Regulation.

12.3. As from 1 November 2013, Contracting Parties applying this Regulation may refuse first national registration of a vehicle which does not meet the requirements of this Regulation as amended by Supplement 9 **or Supplement 10 or Supplement 11** and is not fitted with an Electronic Stability Control System and a Brake Assist System, both meeting the requirements of Annex 9 to this Regulation."

Insert new paragraphs 12.6. and 12.7., to read:

"**12.6. As from the official date of entry into force of the Supplement 11 to the original version of this Regulation, no Contracting Party applying this Regulation shall refuse to grant ECE approval under this Regulation as amended by Supplement 11.**

- 12.7. Contracting Parties applying this Regulation shall continue to grant approvals to those types of vehicles which comply with the requirements of this Regulation as amended by Supplement 10 to the original version of this Regulation during the 36 months period which follows the date of entry into force of Supplement 11."**

Annex III

PROPOSAL FOR AMENDMENTS TO REGULATION No. 13 (TRAILER BRAKING)

GRRF-67-06-Rev.1 adopted as follows

(see para. 7 of this report)

The modifications to the present text of the Regulation are shown in bold characters

Annex 4

Paragraph 1.5.2.1., amend to read:

"1.5.2.1. The service brakes of categories O₂ and O₃ (**when the O₃ trailer has not passed alternatively the Type-III test according to paragraph 1.7 of this annex**) shall be tested..."

Paragraph 1.7., amend to read:

"1.7. Type-III test (fade test for **laden** vehicles of category O₄ **or alternatively of category O₃**)"

Paragraphs 3.1.2.4. and 3.1.2.5., amend to read:

"3.1.2.4. In addition, the vehicles shall undergo the Type-I test **or alternatively a Type-III test in the case of an O₃ trailer.**

3.1.2.5. In the Type-I **or the Type-III** test of a semi-trailer, the mass braked by the latter's axle(s) must correspond to the maximum axle load(s) (not including the king pin load)."

Annex 11, Appendix 3, items 2.3.1. and 2.3.2., amend to read:

"2.3.1. In the case of vehicles of categories O₂ and O₃ **where the O₃ trailer has been subject to the Type I test:**

2.3.2. In the case of vehicles of **categories O₃ and O₄ where the O₃ trailer has been subject to the Type III test:**"

Annex IV

TERMS OF REFERENCE AND RULES OF PROCEDURE OF THE GRRF INFORMAL
GROUP ON AN ALTERNATIVE METHOD TO ASSESS THE EVSC SYSTEM OF MOTOR
VEHICLES (AMEVSC)
(see para. 16 of this report)

INTRODUCTION:

As a result of discussions at the sixty-sixth session of GRRF, WP.29 was invited to authorise the establishment of an informal working group to propose a draft amendment to Regulation No.13 to allow Annexes 19 and 20 processes to be used in the type approval of vehicles of categories M₂ and M₃ with regard to electronic stability control systems according to Annex 21.

This was endorsed by WP.29 at its 149th session (November 2009) (paragraph 34 of the report ECE/TRANS/WP29/1079) on condition that terms of reference are submitted to WP.29 for consideration at its 150th Session (March 2010).

TERMS OF REFERENCE:

The informal working group shall prepare a draft amendment to Regulation No. 13 to allow the use of a Technical Service produced test report for vehicles of categories M₂ and M₃ under the conditions of Annexes 19 and 20 as an alternative method in meeting the requirements of Annex 21 paragraph 2.1.3.

Consideration shall be given to possible amendment of Annex 21 Appendix III in light of experience gained in its use and, if appropriate, the amendment of Annex 21 Appendices I and II.

An amendment draft shall be presented to the February 2010 Session of GRRF.

RULES OF PROCEDURE:

The informal working group is a subgroup of GRRF, and is open to all participants of GRRF.

A Chairman and a Secretary will manage the informal working group.

The official language of the informal working group will be English.

An agenda and related documents will be circulated to all members of the informal working group in advance of all scheduled meetings.

Decisions will be reached by consensus. When consensus cannot be reached, the Chairman shall present the different points of view to GRRF. The Chairman may seek guidance from GRRF as appropriate.

The progress of the informal group will be routinely reported to GRRF – wherever possible as an informal document and presented by the Chairman or his representative.

All working papers will be distributed in digital format. Meeting documents will be made available to the UNECE secretariat for publication on the website of WP.29.

Annex V

PROPOSAL FOR AMENDMENTS TO REGULATION No. 90

(REPLACEMENT BRAKE LINING)

ECE/TRANS/WP.29/GRRF/2010/9 amended as follows

(see para. 24 of this report)

The modifications to the present text of the Regulation are shown in bold characters

Paragraph 2.1., amend to read:

"2.1. "Braking system" has the meaning assigned in Regulation No. 13, paragraph 2.3., or **Regulation No. 13-H, paragraph 2.3., or Regulation No. 78, paragraph 2.5.**"

Paragraph 5.1.(a), amend to read:

"(a) prescriptions of Regulation No. 13 including the 09 series of amendments, **Regulation No. 13-H**, or Regulation No. 78 including the 01 series of amendments;"

Paragraph 5.1.1., amend to read:

"5.1.1. type approval documentation to Regulation No. 13, **Regulation No. 13-H** or Regulation No. 78, are deemed to satisfy the requirements of paragraph 5. of this Regulation."

Paragraph 5.3.1.2., amend to read:

"5.3.1.2. according to standard either ISO 6310:1981, ISO 6310:2001 or **ISO 6310:2009**.

The compressibility ..."

Paragraph 5.3.2.2., amend to read:

"5.3.2.2. according to standard either ISO 6310:1981 ISO 6310:2001 or **ISO 6310:2009**. Flat specimens ..."

Annex VI

PROPOSAL FOR AMENDMENTS TO REGULATION No. 124 (REPLACEMENT WHEELS)
ECE/TRANS/WP.29/GRRF/2009/30 as amended by GRRF-67-09-Rev.1 adopted as follows
(see para. 31 of this report)

The modifications to the present text of the Regulation are shown in bold characters

Paragraph 1., amend to read (including footnote 1/):

"**1.** This Regulation covers new replacement wheels designed for vehicles of categories M₁, M₁G, N₁, **N₁G**, O₁ and O₂ 1/.

It does not apply...

1/ Categories M, N, and O as defined in Annex 7 to the Consolidated Resolution on the Construction of Vehicles (R.E.3) (document TRANS/WP.29/78/Rev.1/Amend.2)."

Insert a new paragraph 2.1.5., to read:

"**2.1.5. "PCD" means the pitch circle diameter of bolt holes.**"

Insert a new paragraph 2.2.8., to read:

"**2.2.8. "Styling", the wheel's geometric shape, including basic contour and ratio between voids and material.**"

Paragraphs 2.4.3. and 2.4.4., amend to read:

"2.4.3. "Replica ... contour, dimensions, inset/**outset**, material...wheels;

2.4.4. "Pattern ... the design, inset/**outset**, rim designation...different."

Paragraphs 2.6., amend to read:

"2.6. "Inset/outset /zeroset" means the distance from the attachment face of the disc to the centre line of the rim (**positive for inset** as shown in Figure 1 below; **negative for outset; zero for zeroset**)."

Insert a new paragraph 2.12., to read:

"**2.12. "Wheel family", are in case of light alloy, wheels of the same type; however, with different inset/outset values, PCD and centre bore.**"

Paragraph 3.1.2.2., amend to read:

"3.1.2.2. rim contour designation - wheel inset/**outset** - wheel attachment details;"

Paragraph 3.1.2.9., amend to read:

"3.1.2.9. maximum load capacity **at rolling circumference**;"

Paragraph 4.5., amend to read:

"4.5. The approval mark shall be permanent, visible, and clearly legible on the outward facing side of the wheel, when the wheel is fitted on the vehicle."

Paragraph 5.1.3., amend to read:

"5.1.3. the wheel inset/**outset (positive for inset; negative for outset)**;"

Paragraph 5.1.5., amend to read:

"5.1.5. part number of the wheel / rim (**optional wheel type**)."

Paragraph 6.5.2.2.(e), should be deleted.

Paragraph 6.5.3.2.(e), should be deleted.

Paragraph 6.6., amend to read:

"6.6. Where a wheel manufacturer submits an application for type approval **for a wheel family, it is not necessary to carry out tests for each wheel version**. Worst case selection ... "

Paragraph 6.7.1., amend to read:

6.7.1. The nominal rim diameter, nominal rim width and nominal inset/**outset** of ECE-approved ..."

Insert a new paragraph 6.8., to read:

"6.8. When the replacement wheel is mounted on the vehicle, the requirements of paragraphs 5.2.1.11.2.1. or 5.2.2.8.2.1. of Regulation No. 13 or paragraph 5.2.11.2.1. of Regulation No. 13-H shall be fulfilled."

Annex 1

Item 2.5., amend to read:

"2.5. Wheel inset/outset:" "

Item 2.7., amend to read:

"2.7. Maximum wheel load and respective theoretical rolling circumference" "

Annex 3, amend the last sentence, to read:

"The marking shall be at a position selected by the manufacturer. It shall be easily visible and clearly legible after the tyre has been mounted to the wheel."

Annex 4

The table, amend to read:

"

Material	Tests
Aluminium alloy	a, b, c, e
Magnesium alloy	a, b, c, e
Steel	a, b, d

"

Paragraphs (c) to (e), amend to read:

- "(c) Check of the **material** characteristics ($R_{p0,2}$, R_m and A) of **specimen taken from critical zones (such as the spoke, for example) as well as the inner and the outer rim flange. The take-off points and position of the samples must be depicted in the drawing.**
- (d) Analysis of the defects and of the new material structure.
- (e) Analysis of the metallurgic defects and **structure taken from the transition zone of the wheel disc and rim or from the fracture zone, if applicable.**"

Annex 5, paragraph 1.1., amend to read:

"1.1. Sample preparation

A surface treated sample, taken from the production, shall be damaged by cross engraving (ISO 2409:2007) and stone impact (ISO 20567-1:2005) to represent ..."

Annex 6

Paragraph 2., amend to read:

- "2. Formula for the bending moment calculation
.....
d = inset/outset (**positive for inset ; negative for outset**) [m]
....."

Paragraph 3., the table, replace "M₁ and M₁ G" by "**M₁, M₁ G, N₁, and N₁ G**"

Paragraph 4., amend to read:

- "4. Test schedule for **wheel families**

Wheels of a wheel type with the same number of wheel attachment holes, same styling, different PCD and/or different inset/outset values can be grouped at the same or at a lower value of test bending moment taking into account the test schedule to follow. Wheels with the largest centre hole diameter shall be included in the test.

In the case of a negative test, due to material failures, it can be compensated by two positive tests of the same wheel version. If either or both of the final two samples fail, then the application for approval of the replacement wheel shall be rejected."

Necessary tests: ..."

Annex 7

Paragraph 1., amend to read:

- "1. Test description

In the rolling test ...shall be tested.

In the case of a negative test, due to material failures, it can be compensated by two positive tests of the same wheel version. If either or both of the final two samples fail, then the application for approval of the replacement wheel shall be rejected."

Paragraph 3

The table, replace "M₁ and M₁ G" by "**M₁, M₁ G, N₁ and N₁ G**"

Footnote 1, amend to read:

"1/ **Only for steel disc wheels.**"

Annex 8,

Paragraph 1., amend to read:

"1. Test description

The fracture behaviour of the wheel striking an object at the outer rim flange shall be checked at critical positions. For proof of adequate fracture behaviour, an impact test according to ISO 7141:2005 shall be carried out.

In the case of a negative test, due to material failures, it can be compensated by two positive tests of the same wheel version. If either or both of the final two samples fail, then the application for approval of the replacement wheel shall be rejected."

Paragraph 3, amend lines 1 and 2 of the table, to read:

"

	M₁, N₁, M₁ G and N₁G
Procedure and requirements	ISO 7141: 2005

....."

Paragraph 4., amend to read:

"4. Tests schedule for wheel families

Wheels to be tested	Impact test
smallest pitch circle diameter	one for each impact position
largest pitch circle diameter	one for each impact position
deviation of inset value up to -15 mm	--
more than -15 mm and larger than +2 mm	one for each impact position

"

Insert a new paragraph 5., to read:

"5. Failure criteria

The wheel will not pass the test if one of the following criteria applies:

- (a) visible incipient crack in a zone of the wheel disc of wheel assembly;**
- (b) the centre member separates from the rim;**
- (c) total loss of pressure within one minute.**

The wheel is not considered to have failed the test by deformation of the wheel assembly or by fractures in the area of a rim section struck by the face plate of the striker."

Annex 8 – Appendix, should be deleted.

Annex 9, should be deleted

Annex 10

Paragraph 1.1., amend to read:

"1.1. Wheel characteristics

ECE approval number, ... and inset/**outset**."

Paragraph 1.2., amend to read:

"1.2. Vehicle characteristics

Those vehicle characteristics should be listed that distinctly describe the vehicle type and version for which the wheel will be used. Thereby, depending on the restriction of the range of application of various markets with respect to certain vehicle versions and variants, various specification characteristics are possible.

Absolutely required are the data of:

- (a) Vehicle manufacturer;**
- (b) Vehicle type.**

Additional optional data, e.g.:

- (c) Vehicle approval number; (if applicable variant/ version)**
- (d) Engine performance (also possible range of performance).**

Other specification characteristics / restrictions may also be used."

Paragraph 1.5., amend to read (including a new footnote 2/):

"1.5. Example of possible structures of the application and fitting information table

Wheel characteristics (mandatory fields in **bold** characters)

Approval Number				
Wheel Type				
Size	Fixing holes / pcd (mm)	Inset/outset 2/ (mm)	Max. wheel load (N)	
6 Jx15 H2				
Wheel marking (Variant/Version)	centering marking	Centering (mm)	date of manufacture (week/year)	at circumference (mm)

Vehicles' characteristics as well as **additional conditions and advice**

Vehicle manufacturer:

Fitting parts e.g. special bolts delivered by the wheel manufacturer

M14x1.5, conical angle 60°, length of piston skirt xx mm

Vehicle Type			
Approval No.			
Performance (kW from – to)	Vehicle Model name	Permissible tyre size front and rear axle	Additional conditions and advice
			A01)A02)A03) E01)

Conditions and Advice

A01) e.g. kind of balancing weights and their place of fitting;

A02) e.g. kind of possible valves;

A03) e.g. for using manufacturer's replacement wheels only the standard fitting parts are allowed;

E01) e.g. not allowed on 4x4 vehicles. "

2/ positive for inset; negative for outset

Annex VII

PROPOSAL FOR AMENDMENTS TO REGULATION No. 64

(TEMPORARY USE SPARE WHEELS)

GRRF-67-07-Rev.1 adopted as follows

(see para. 31 of this report)

The modifications to the present text of the Regulation are shown in bold characters

The title, (in both instances where the title is used), amend to read:

"UNIFORM PROVISIONS CONCERNING THE APPROVAL OF VEHICLES WITH REGARD TO **THEIR** EQUIPMENT WHICH MAY INCLUDE : A TEMPORARY USE SPARE UNIT, **RUN FLAT TYRES AND/OR** A RUN-FLAT SYSTEM, **AND/OR** A TYRE PRESSURE MONITORING SYSTEM"

Paragraph 1. (Scope), amend to read(including footnote 2/):

"1. Scope

This Regulation applies to the approval of vehicles of category M₁ and N₁ 1/ **when equipped with:**

- a) **a temporary use spare unit, and/or**
- b) **run-flat tyres and/or a run-flat system, and/or**
- c) **a tyre pressure monitoring system 2/.**

For the purposes of this Regulation, spare wheel and tyre substitute units in the form of run-flat tyres or a run-flat system in a totally deflated condition, are to be treated as being temporary use spare units as defined in paragraph 2.10. of the Regulation."

2/ In the case of vehicles of categories M₁ up to a maximum mass of 3,500 kg and N₁, in both cases **with all axles equipped** with single tyres"

Paragraphs 2.2.8. and 2.2.9., should be deleted.Paragraph 5.3.1.1., amend to read:

"5.3.1.1. Subject to the requirements ... and N₁, in both cases **with all axles equipped** with single tyres, and fitted ... with Annex 5."

Paragraphs 12.6. and 12.7., amend to read:

"12.6. As from 1 November 2012, ... and N₁, in both cases **with all axles equipped** with single tyres, if the vehicle ...to this Regulation.

12.7. As from 1 November 2014, ... and N₁, in both cases **with all axles equipped** with single tyres, if the vehicle ... this Regulation."

Annex 1

Paragraph 9.4., renumber the third indent as paragraph 9.5., to read:

"9.5. The vehicle is fitted with a tyre pressure monitoring system meeting the requirements of paragraphs 5.3. to 5.3.5.5. yes/no 2"

Paragraph 9.5., renumber as paragraph 9.6.

GRRF INFORMAL GROUPS

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