



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

Geneva, 16–19 September 2014

**Report of the Working Party on Brakes and Running Gear
 on its seventy-eighth session**
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I. Attendance

1. The Working Party on Brakes and Running Gear (GRRF) held its seventy-eighth session from 16 to 19 September 2014 in Geneva. The meeting was chaired by Mr. B. Frost (United Kingdom). Experts from the following countries participated in the work, following Rule 1(a) of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (TRANS/WP.29/690, ECE/TRANS/WP.29/690/Amend.1 and Amend. 2): Australia, Belgium, Canada, China, Czech Republic, Finland, France, Germany, Hungary, India, Italy, Japan, the Netherlands, Norway, Poland, Republic of Korea, Russian Federation, Slovakia, Spain, Sweden, Switzerland, the United Kingdom of Great Britain and Northern Ireland (UK) and the United States of America (USA). An expert from the European Commission (EC) also participated. Experts from the following non-governmental organizations (NGOs) participated: the European Association of Automotive Suppliers (CLEPA), the European Tyre and Rim Technical Organisation (ETRTO), the International Motorcycle Manufacturers Association (IMMA), the International Organization for Standardization (ISO), the International Organization of Motor Vehicle Manufacturers (OICA) and Rubber Manufacturers Association (RMA). Upon the special invitation of the Chair the following NGOs participated: Bureau International Permanent des Associations de Vendeurs et Réchappeurs de Pneu (BIPAVER), Imported Tyre Manufacturers Association (ITMA) and SAF-HOLLAND GmbH.

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRRF/2014/18 and Add.1
Informal documents GRRF-78-01 and GRRF-78-02-Rev.2

2. GRRF considered and adopted the agenda prepared for the seventy-eighth session (ECE/TRANS/WP.29/GRRF/2014/18 and Add.1).
3. GRRF also adopted the running order for the session as proposed in GRRF-78-01 and the updated consolidated agenda GRRF-78-02-Rev.2, including all informal documents considered at the session's starting date.
4. The informal documents distributed during the session are listed in Annex I of this report.

III. Advanced Emergency Braking Systems (agenda item 2)

Documentation: Informal documents GRRF-78-30, GRRF-78-32, GRRF-78-33, GRRF-78-34, GRRF-78-35, GRRF-78-36 and GRRF-78-37

5. The expert from OICA introduced GRRF-78-30, GRRF-78-32, GRRF-78-33, GRRF-78-34, GRRF-78-35, GRRF-78-36 and GRRF-78-37. The documents presented two sets of proposals amending the introduction and scope of UN Regulations Nos. 130 and 131 exploring possibilities of exemption for specific vehicle applications (e.g. off-road vehicles).
6. Several Contracting Parties (CPs) expressed extensive concerns on these proposals. The expert from OICA expressed his intention to develop other options for consideration at the seventy-ninth GRRF session.

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

A. Electronic Stability Control (ESC)

7. GRRF discussed this item in conjunction with item 10(c) (see para. 49).

B. Automated Connections between Vehicles (ACV)

Documentation: Informal documents GRRF-78-16 and GRRF-78-17

8. The Chair of the informal working group (IWG) on ACV introduced GRRF-78-17 reporting on the outcome of the group's recent meetings, recalling the completion of the work on ACV and proposing to focus on Modular Vehicle Combinations (MVC).

9. GRRF noted the proposed updated Terms of Reference of the IWG (GRRF-78-16), converting its denomination to MVC and expanding its mandate. Following the concerns expressed by the expert from Germany on potential work conflict and/or overlap between the IWG on Regulation No. 55 and the IWG on MVC, GRRF agreed to monitor both informal groups' progress to avoid such redundancy. Finally, GRRF adopted GRRF-78-16 as reproduced in Annex II of this report.

C. Clarifications

Documentation: (ECE/TRANS/WP.29/GRRF/2013/29)
ECE/TRANS/WP.29/GRRF/2013/13
Informal documents GRRF-78-40 and GRRF-78-52

10. The Chair of GRRF recalled the purpose of ECE/TRANS/WP.29/GRRF/2013/13, adopted during the seventy-fifth GRRF session. The document remained on the agenda of GRRF, pending submission to WP.29 and AC.1 of the adopted text for UN Regulations Nos. 13 (Heavy vehicle braking), 13-H (Brakes of M1 and N1 vehicles), 79 (Steering equipment) and 89 (Speed limitation devices) and the new UN Regulations on Lane Keeping Assist System (LKAS) and Parking Assist System (PAS).

11. The expert from IMMA presented GRRF-78-52 addressing GRRF concerns about the absence of Electromagnetic Compatibility (EMC) requirements in UN Regulation No. 78. GRRF agreed to resume consideration of this matter at its February 2015 session awaiting a presentation by IMMA on the difficulties at referring to the EMC requirements of UN Regulation No. 10 for vehicles of L-category.

12. The expert from Germany introduced GRRF-78-40 based on ECE/TRANS/WP.29/GRRF/2013/29 which detailed proposed amendments to UN Regulation No. 13 on provisions for electro-mechanical braking systems. GRRF acknowledged the status report. The experts from Germany and the Netherlands volunteered to prepare a revised proposal for consideration at the February 2015 session, addressing the remaining open issues.

13. The expert from Germany questioned the decision of GRRF taken in 2004 to exclude the use of the overrun brake for a full trailer (TRANS/WP.29/GRRF/2004/11) and not extended to electrical brakes according to Annex 14. The expert from the Netherlands noted that the conscious decision in 2004 to exclude overrun brakes for full trailers was design restrictive. He suggested that the corresponding provisions should be replaced by performance requirements.

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

Documentation: (ECE/TRANS/WP.29/GRSG/2014/12
Informal document GRSG-106-35)

14. The expert from OICA announced that ECE/TRANS/WP.29/GRSG/2014/12 and GRSG-106-35 had been withdrawn from the agenda of the 107th GRSG session. GRRF agreed on the removal of the item from the agenda.

E. Other business

Documentation: ECE/TRANS/WP.29/GRRF/2014/27

15. The expert from CLEPA introduced ECE/TRANS/WP.29/GRRF/2014/27, proposing amendments to Annexes 10 and 13 of UN Regulation No. 13. GRRF adopted the proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2015 sessions as draft Supplement 13 to the 11 series of amendments to UN Regulation No. 13.

V. Regulation No. 55 (Mechanical couplings) (agenda item 4)

Documentation: (ECE/TRANS/WP.29/GRRF/2014/14)
ECE/TRANS/WP.29/GRRF/2014/28
Informal documents GRRF-78-23, GRRF-78-24, GRRF-78-25 and GRRF-78-26

16. The Chair of the IWG on UN Regulation No. 55 introduced ECE/TRANS/WP.29/GRRF/2014/28 (based on ECE/TRANS/WP.29/GRRF/2014/14) and deleting references to the standard ISO 7641/1-2012 as contained in the original proposal.

17. He also introduced GRRF-78-23 explaining the differences between standards ISO 7641:1983 and ISO 7641:2012. He reported on the meeting minutes (GRRF-78-25) and on the meetings status on Task Force Agricultural Couplings (TFAC) (GRRF-78-26). Finally he presented GRRF-78-24 as a complete revision of UN Regulation No. 55. GRRF agreed to resume consideration of this proposal at its February 2015 session.

18. GRRF adopted ECE/TRANS/WP.29/GRRF/2014/28 and requested the secretariat to submit the proposal to WP.29 and AC.1 for consideration at their March 2015 sessions as draft Supplement 4 to the 01 series of amendments to UN Regulation No. 55.

VI. Motorcycle braking (agenda item 5)

A. Regulation No. 78

Documentation: ECE/TRANS/WP.29/GRRF/2014/21
Informal documents GRRF-78-06 and GRRF-76-45

19. The expert from IMMA introduced ECE/TRANS/WP.29/GRRF/2014/21 based on GRRF-76-45, proposing general clarifications to UN Regulation No. 78 and specific requirements for the use of Combined Braking Systems (CBS) and the parking brake. He added that the amendments contained in the proposal have been aligned with those proposed for the Global Technical Regulation No. 3 below. GRRF adopted this proposal

and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2015 sessions as draft Supplement 2 to the 03 series of amendments to UN Regulation No. 78.

20. The expert from EC introduced GRRF-78-06, supplementing document ECE/TRANS/WP.29/GRRF/2014/21, aimed at establishing technical requirements for ABS systems that are temporarily disabled e.g. in off-road conditions. The expert from Australia offered to provide further data from their current study on this issue. Following the discussion, GRRF agreed to revisit this item at its February 2015 session on the basis of a revised proposal jointly prepared by EC and IMMA.

B. Global Technical Regulation No. 3

Documentation: ECE/TRANS/WP.29/GRRF/2014/22
Informal documents GRRF-76-44 and GRRF-78-07

21. The expert from Italy introduced ECE/TRANS/WP.29/GRRF/2014/22 based on GRRF-76-44, proposing to align the provisions with those proposed for UN Regulation No. 78 (see para. 19). GRRF adopted the proposal, as amended below. The secretariat was requested to submit the proposal to WP.29 and AC.3 for consideration at their March 2015 sessions as draft Amendment 2 to the GTR No. 3. The expert from Italy agreed to submit the corresponding technical report for consideration at the AC.3 session in March 2015. GRRF would have the opportunity to review it at its February 2015 session.

Paragraph 5.3., amend to read:

" ...

d) Brake actuation force:

The control force that achieves the maximum vehicle deceleration rate as defined in paragraph 6.5.1.(c).

..."

22. The expert from EC introduced GRRF-78-07, amending document ECE/TRANS/WP.29/GRRF/2014/22, proposing to align the provisions with those proposed for Regulation No. 78 (see para. 20). GRRF agreed to revisit the document at its February 2015 session on the basis of a revised proposal by EC in collaboration with IMMA.

VII. Regulation No. 90 (Replacement brake linings) (agenda item 6)

Documentation: ECE/TRANS/WP.29/GRRF/2014/23

23. The expert from Italy presented ECE/TRANS/WP.29/GRRF/2014/23 proposing new requirements for the approval of replacement brake discs for L-category vehicles, taking into consideration the latest technologies available in the market.

24. The proposal received some comments. The expert from Spain recalled the work done on this matter by the informal group on UN Regulation No. 90. GRRF requested that an overview of the differences between this proposal and the outcome of the IWG in 2009. GRRF agreed to revisit this item on the basis of this document or a revised proposal submitted by the expert from Italy taking into account all the comments received.

VIII. Tyres (agenda item 7)

A. Global Technical Regulation on tyres

Documentation: ECE/TRANS/WP.29/2013/63
ECE/TRANS/WP.29/GRRF/2014/20
ECE/TRANS/WP.29/2013/122
Informal documents GRRF-78-18 and GRRF-78-47

25. The Chair of GRRF recalled the purpose of ECE/TRANS/WP.29/2013/63 (Draft UN GTR on tyres), amended by ECE/TRANS/WP.29/GRRF/2014/20 (adopted at the seventy-seventh session of GRRF), and ECE/TRANS/WP.29/2013/122 (the corresponding technical report).

26. The expert from France presented GRRF-78-18 introducing minor updates to ECE/TRANS/WP.29/2013/63 and ECE/TRANS/WP.29/2013/122. He added that the timeline for further development of the gtr had to be updated, taking into account the delay to adopt phase I. GRRF adopted GRRF-78-18 as amended by GRRF-78-47 and as reproduced in Annex III to this report. GRRF requested the secretariat to submit the proposal to WP.29 and AC.3 for consideration at their November 2014 sessions.

27. GRRF reviewed the ECE/TRANS/WP.29/GRRF/2014/20 containing the amendments defined at the seventy-seventh GRRF session. The Chair recalled that GRRF previously agreed that updates to the UN GTR on tyres would be proposed after its establishment in the global registry by AC.3 to keep it in line with the latest regulatory developments.

28. Finally, the expert from France advised GRRF that his country would not be able to sponsor phase 2 of the UN GTR on tyres once phase 1 was concluded.

B. Regulation No. 117

Documentation: ECE/TRANS/WP.29/GRRF/2014/25
ECE/TRANS/WP.29/GRB/2014/7
Informal document GRRF-78-13

29. The expert from ETRTO introduced ECE/TRANS/WP.29/GRRF/2014/25 concerning snow tyres for use in severe snow conditions, specifically the items to be listed in the communication form of Annex 1 to UN Regulation No. 117.

30. The expert from ETRTO presented GRRF-78-13 proposing a corrigendum to Supplement 2 to 02 series of UN Regulation No. 117. The proposal noted that the Supplement to UN Regulation No. 117 introducing limits for C2 tyres in paragraph 6.4.1.1. had been adopted after the parallel proposal introducing those for C3 tyres. It highlighted an unintended consequence whereby the limits for C3 tyre had been deleted. Following the discussion, GRRF agreed that, while the consequence was an error, it was not appropriate to correct the regulation using corrigenda and agreed to consider the proposal as a Supplement.

31. GRRF adopted ECE/TRANS/WP.29/GRRF/2014/25 as reproduced in Annex IV to this report, and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2015 sessions as draft Supplement 7 to 02 series of UN Regulation No. 117.

32. The expert from the Russian Federation, Vice-Chair of the Working Party on Noise (GRB), informed GRRF that a revised version of ECE/TRANS/WP.29/GRB/2014/7,

including some minor editorial amendments, had been submitted by GRB to WP.29 and AC.1 for consideration at their March 2015 sessions.

C. Regulation No. 54

Documentation: ECE/TRANS/WP.29/GRRF/2014/26
Informal document GRRF-78-12

33. GRRF agreed to defer consideration of ECE/TRANS/WP.29/GRRF/2014/26 and GRRF-78-12 to its February 2015 session.

D. Other business

Documentation: ECE/TRANS/WP.29/GRRF/2013/20
ECE/TRANS/WP.29/GRRF/2013/22
ECE/TRANS/WP.29/GRRF/2014/24
Informal documents GRRF-76-06, GRRF-76-38, GRRF-78-10,
GRRF-78-42, GRRF-78-45 and GRRF-78-46

34. The expert from ETRTO presented GRRF-78-42 supporting ECE/TRANS/WP.29/GRRF/2013/20 as amended by GRRF-76-06 as well as ECE/TRANS/WP.29/GRRF/2013/22 aimed at inserting All Terrain (AT) tyres in UN Regulation No. 75.

35. The expert from IMMA recalled GRRF-76-38 analysing the possible alternatives to type approve AT tyres, taking into account the technical requirements in UN Regulations Nos. 54, 75 and 106. He introduced ECE/TRANS/WP.29/GRRF/2014/24 proposing the insertion of AT tyres in UN Regulation No. 106 as an alternative to the ETRTO proposal above.

36. Following the discussion GRRF adopted ECE/TRANS/WP.29/GRRF/2013/22 and ECE/TRANS/WP.29/GRRF/2013/20 as amended by GRRF-76-06, GRRF-78-45 and GRRF-78-46 and as reproduced in Annex V. The secretariat was requested to submit them to WP.29 and AC.1 for consideration at their March 2015 sessions as draft Supplement 12 to UN Regulation No. 106 and Supplement 15 to UN Regulation No. 75, respectively.

37. The expert from France presented GRRF-78-10 proposing to introduce a new annex on snow tyre for use in severe snow conditions in to UN Regulation No. 109. GRRF agreed to revisit the document at its February 2015 session and requested the secretariat to distribute GRRF-78-10 with an official symbol at that GRRF session.

IX. Intelligent Transport Systems (ITS) (agenda item 8)

Documentation: Informal documents GRRF-78-08 and GRRF-78-22

38. The secretariat introduced GRRF-78-08 on ITS related activities conducted in 2014. He informed GRRF about the coming meetings of the IWG on ITS in Geneva on 11 November 2014 and the ITS round table in Brussels on 17 and 18 November 2014.

39. The expert from Japan presented GRRF-78-22 amending Annex 5 to the Consolidated Resolution on the Construction of Vehicles (R.E.3), to insert provisions for Remote Controlled Parking (RCP) systems. GRRF noted some comments and requested the secretariat to distribute GRRF-78-22 with an official symbol for consideration at the next GRRF session.

X. Steering equipment (agenda item 9)

A. Regulation No. 79

Documentation: ECE/TRANS/WP.29/GRRF/2014/8
ECE/TRANS/WP.29/GRRF/2014/19
Informal documents GRRF-78-27 and GRRF-78-44

40. At the request of the authors of ECE/TRANS/WP.29/GRRF/2014/19, GRRF agreed to withdraw the document. Instead, the expert from CLEPA introduced GRRF-78-44 supporting GRRF-78-27 on requirements to be met in case braking and steering systems have the same energy source. The proposed amendment attempted to clarify and align the wording of this UN Regulation No. 79 with that of UN Regulation No. 13-H. Following the discussion, GRRF agreed to revisit this subject at its February 2015 session on the basis of a revised proposal by CLEPA taking into account the comments received.

41. The expert from CLEPA, on behalf of CLCCR, introduced ECE/TRANS/WP.29/GRRF/2014/8 aimed at removing a design restriction from UN Regulation No. 79 that prevents the approval of new technologies. He explained that the proposal was not intended for immediate adoption and he invited all interested experts to send him their comments (colin.ross@meritor.com). GRRF agreed to resume consideration of this matter on the basis of a revised proposal by CLEPA.

B. Lane Keeping Assist System (LKAS) and Parking Assist System (PAS)

Documentation: Informal documents GRRF-78-05, GRRF-78-11, GRRF-78-14 and GRRF-78-43

42. The expert from Sweden presented GRRF-78-43, supporting GRRF-78-05 submitted by the LKAS small drafting group, introducing definitions and related LKAS requirements in to UN Regulation No. 79. The expert from OICA introduced GRRF-78-11 amending GRRF-78-05 and revising the warning requirements for the driver in the case that their attention to the task of steering could not be assured. GRRF agreed to resume discussion at its February 2015 session based on revised proposals.

43. The experts from Japan and Sweden presented GRRF-78-14 amending UN Regulation No. 79 aimed at (i) starting a discussion on the removal of the speed limitation for the Automatically Commanded Steering Function, (ii) introducing safety functions such as warnings and (iii) introducing On-Board Diagnostics (OBD) requirements permitting to verify the correct operational status of Electronic Systems assisting the steering. A number of GRRF experts considered some of those requirements to be design-restrictive. The Chair noted that the proposal was beyond the usual mandate of GRRF and he announced his intention to seek the guidance of WP.29 at its November 2014 session.

44. GRRF requested the secretariat to keep GRRF-78-14 as a reference document on the agenda, inform the IWG on ITS about this proposal and distribute GRRF-78-05 with an official symbol for consideration at the next GRRF session.

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

A. Report on the IWVTA informal group and subgroup activities

Documentation: Informal document GRRF-78-49

45. The secretariat reported on the activities of the IWG on IWVTA and its subgroups. GRRF noted that IWVTA was one of the main objectives associated with Revision 3 of the 1958 Agreement which is expected to entry into force in March 2016. It was also noted that the GRRF actions related to IWVTA should ideally be completed in February 2015.

46. The GRRF Ambassador to IWTVA introduced GRRF-78-49 containing the highlights of the work progress of the IWVTA, the list of key documents and the calendar of meetings and actions.

B. Regulation on tyre installation

Documentation: ECE/TRANS/WP.29/GRRF/2014/13
Informal document GRRF-78-28

47. The expert from OICA presented GRRF-78-28 amending ECE/TRANS/WP.29/GRRF/2014/13 on the tyre installation for M₁ vehicles. The proposal received some comments. GRRF agreed to revisit this item at its next session on the basis of a revised proposal by OICA.

C. Regulation No. 13-H

Documentation: ECE/TRANS/WP.29/GRRF/2014/10
ECE/TRANS/WP.29/GRRF/2014/11
ECE/TRANS/WP.29/GRRF/2014/12
Informal documents GRRF-76-13, GRRF-76-14, GRRF-76-18,
GRRF-76-22, GRRF-76-23, GRRF-76-33, GRRF-76-34,
GRRF-78-19, GRRF-78-20, GRRF-78-21, GRRF-78-29,
GRRF-78-41 and GRRF-78-50

48. The expert from OICA announced that GRRF-76-13, GRRF-76-14, GRRF-76-18, GRRF-76-22 and GRRF-76-23 had been replaced by GRRF-78-19, GRRF-78-20 and GRRF-78-21.

49. The expert from OICA introduced the new documents as well as the proposals for separate UN Regulations on Brake Assist Systems (BAS) (ECE/TRANS/WP.29/GRRF/2014/11) and on Electronic Stability Control (ESC) (ECE/TRANS/WP.29/GRRF/2014/12) extracted from UN Regulation No. 13-H (ECE/TRANS/WP.29/GRRF/2014/10). The Chair recalled the purposed of GRRF-76-33 and GRRF-76-34. OICA stated that GRRF-76-34 had been taken into account when drafting the proposals above. He introduced GRRF-78-29 proposing to delete the k-test method prescribed in Annex 7 and only keep the method prescribed in Appendix 2 to Annex 6 to align the UN Regulation with GTR No. 8. GRRF agreed to reconsider this proposal at its seventy-ninth session.

50. The expert from CLEPA introduced GRRF-78-41 proposing text addressing the specific question of how to deal with the original Annex 8 of UN Regulation No. 13-H following splitting of the UN Regulation. The expert from OICA proposed some alternative

wording (GRRF-78-50). GRRF agreed to reconsider at its February 2015 session the way to address the subject related to Annex 8.

51. GRRF agreed to resume consideration of this agenda item at its February 2015 session, based on three revised proposals by OICA and CLEPA.

D. Other business

Documentation: Informal documents GRRF-78-38, GRRF-78-39 and GRRF-78-48

52. The expert from OICA introduced GRRF-78-39 proposing a separate UN Regulation dedicated to Tyre Pressure Monitoring System (TPMS). He presented GRRF-78-48 proposing the corresponding amendments to Regulation No. 64, removing the provisions related to TPMS. He also presented GRRF-78-38, the corresponding consolidated version (based on UN Regulation No. 64 without the TPMS provisions). GRRF agreed to split UN Regulation No. 64 in two parts and to keep both proposals (GRRF-78-38 and GRRF-78-39) on the agenda of the seventy-ninth GRRF session.

XII. Exchange of views on innovations, automations and self-driving cars (agenda item 11)

A. Highlights of the February 2014 session of ITC

Documentation: Informal document GRRF-78-09

53. The secretariat introduced GRRF-78-09, reporting on the highlights of the February 2014 session of ITC.

B. Exchange of information

Documentation: Informal document GRRF-78-31

54. The expert from CLEPA introduced GRRF-78-31 on Advanced Driving Assist Systems (ADAS) and their levels of vehicle automation. He presented new technologies, such as Highway Autopilots and Valet Parking, which were under development and would require amendments to UN Regulations for vehicles to be type approved. GRRF welcomed this presentation. The Chair of GRRF encouraged all experts to continue sharing information on these types of innovations at the following GRRF session.

XIII. Other business (agenda item 12)

A. Highlights of the March and June 2014 sessions of WP.29

Documentation: ECE/TRANS/WP.29/1108
ECE/TRANS/WP.29/1110
Informal document GRRF-78-15

55. The secretariat introduced GRRF-78-15 reporting on the highlights of the 162nd (ECE/TRANS/WP.29/1108) and 163th (ECE/TRANS/WP.29/1110) sessions of WP.29.

B. Consolidated Resolution on the Construction of Vehicles (R.E.3)

Documentation: ECE/TRANS/WP.29/GRSG/2014/25
Informal document GRRF-78-03

56. The secretariat introduced ECE/TRANS/WP.29/GRSG/2014/25 (initially proposed by the Working Party on Lighting and Light-Signalling (GRE)), as amended by GRRF-78-03 and introducing in to R.E.3, new categories of agricultural vehicles. The expert from the Russian Federation commented that the definitions proposed may create overlap especially when an agricultural vehicle could be classified as a Non Road Mobile Machinery (NRMM) and vice versa. The Chair of GRRF requested the experts to send their comments on this proposal to the secretariat.

C. Definitions and acronyms

Documentation: Informal documents GRRF-76-03 and GRRF-78-04

57. Following the suggestion of the WP.29, the secretariat introduced GRRF-78-04 containing a list of definitions in the Regulations under the responsibility of GRRF. The Chair of GRRF recalled GRRF-76-03 and noted that no follow-up action was defined. The secretariat announced that it was looking for a central and suitable location on the website to collect this useful information.

D. Tributes

58. Learning that Mr. Masashi Ishihara (Japan) and Mr. Jürgen Bräuninger (CLEPA) would retire and, therefore, no longer attend the sessions, GRRF acknowledged their considerable contributions to the activities of the group. GRRF wished them long and happy retirements.

E. Any other business

Documentation: Informal document GRRF-78-51

59. The expert from CLEPA introduced GRRF-78-51 on difficulties linked to the definition of "variant" of brake disc/drum in UN Regulation No. 90. The expert informed that a proposal to UN Regulation No. 90 would be submitted to GRRF for consideration at its next session.

XIV. Election of officers (agenda item 13)

60. In compliance with Rule 37 of the Rules of Procedure (TRANS/WP.29/690 and Amends. 1 and 2), GRRF called for the election of officers on Tuesday afternoon. Mr. B. Frost (United Kingdom) was unanimously elected Chair of GRRF for the sessions scheduled for the year 2015. Mr. H. Kubota (Japan) was elected Vice-Chair of GRRF for the same period.

XV. Provisional agenda for the seventy-ninth session

61. The following provisional agenda was adopted for the seventy-ninth session of GRRF, scheduled to be held in Geneva from 16 (starting at 2.30 p.m.) to 20 (concluding at 12.30 p.m.) February 2015¹:

1. Adoption of the agenda.
2. Advanced Emergency Braking Systems.
3. Regulations Nos. 13 and 13-H (Braking):
 - (a) Electronic Stability Control (ESC);
 - (b) Automated Connections between Vehicles (ACV);
 - (c) Clarifications;
 - (d) Braking symbols in Regulation No. 121 (Identification of controls, tell-tales and indicators);
 - (e) Other business.
4. Regulation No. 55 (Mechanical couplings).
5. Motorcycle braking:
 - (a) Regulation No. 78;
 - (b) Global Technical Regulation No. 3.
6. Regulation No. 90 (Replacement brake linings).
7. Tyres:
 - (a) Global Technical Regulation on tyres;
 - (b) Regulation No. 117;
 - (c) Regulation No. 54;
 - (d) Other business.
8. Intelligent Transport Systems (ITS).
 - (a) Vehicle automations;
 - (b) Other ITS issues.
9. Steering equipment:
 - (a) Regulation No. 79;
 - (b) Lane Keeping Assist System (LKAS) and Parking Assist Systems (PAS).
10. International Whole Vehicle Type Approval (IWVTA):
 - (a) Report on the IWVTA informal group and subgroup activities;
 - (b) Regulation on tyre installation;
 - (c) Regulation No. 13-H;
 - (e) Other business.
11. Exchange of view on innovations.

¹ GRRF noted that the deadline for submission of official documents to the UNECE secretariat was 21 November 2014, twelve weeks prior to the session.

12. Other business:
 - (a) Highlights of the November 2014 session of WP.29;
 - (b) Consolidated Resolution on the Constructions of Vehicles (R.E.3);
 - (c) Definitions and acronyms;
 - (d) Any other business.

Annex I

List of informal documents considered during the session

[English only]

Informal documents GRRF-78-...		
<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
1	(GRRF Chair) Running order	A
2	(Secretariat) Consolidated Agenda of the 78 th GRRF session	A
3	(European Commission) Proposal for amendments to the Consolidated Resolution on the Construction of Vehicles (R.E.3)	F
4	(Secretariat) Definitions in Regulations under the responsibility of GRRF	F
5	(LKAS Group) Proposal for amendments to UN Regulation No. 79 (Steering equipment)	C
6	(European Commission) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2014/21	E
7	(European Commission) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2014/22	E
8	(Secretariat) Update concerning the ITS activities	F
9	(Secretariat) Highlights of the 2014 session of ITC	F
10	(France) Proposal for amendments to UN Regulation No. 109	C
11	(OICA) Proposal for amendments to GRRF-78-05 (on LKAS)	E
12	(ETRTO) Proposal for amendments to ECE/TRANS/WP29/GRRF/2014/26	D
13	(ETRTO) Proposal for corrigendum to UN Regulation No. 117, Rev. 3	B
14	(Sweden and Japan) Proposal for amendments to GRRF-78-05 (on LKAS)	D
15	(Secretariat) Highlights of the last sessions of WP.29 and general information	F
16	(MVC Informal Group) Terms of Reference for the GRRF informal group on Modular Vehicle Combinations (MVC)	B
17	(MVC Informal Group) Report from the informal working group on Modular Vehicle Combinations (MVC)	F
18	(France) Proposal for amendments to ECE/TRANS/WP.29/2013/63 and ECE/TRANS/WP.29/2013/122 (draft GTR on tyres)	F
19	(OICA) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2014/12 (Draft ESC Regulation)	E
20	(OICA) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2014/11 (Draft BAS Regulation)	E
21	(OICA) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2014/10 (UN Regulation No. 13-H splitting)	E
22	(Japan) Amendment proposal for Annex 5 to R.E.3 introducing Remote Controlled Parking System	C
23	(R55 Informal Group) References on ISO7641:1983 and ISO7641:2012	F
24	(R55 Informal Group) Working Document on R-55	E
25	(R55 Informal Group) Minutes of the meeting (TUEV NORD ESSEN, 20/03/2014)	F
26	(R55 Informal Group) Status of TFAC after the 4th Meeting (05 and 06/02/2014)	F
27	(CLEPA and OICA) Proposal for amendments to ECE/TRANS/WP.29/GRRF/2014/19 (UN Regulation No. 79)	E
28	(OICA) Proposal for amendments to document ECE/TRANS/WP.29/GRRF/2014/13 (Regulation on Tyres installation)	E

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
29	(OICA) Proposal for amendments on the method to obtain k value for test surface condition (ECE/TRANS/WP.29/GRRF/2014/12)	E
30	(OICA) Introduction of OICA proposal on AEBS-LDWS regulations	E
31	(CLEPA) (R)Evolution of Driving Assist Systems (Handout)	F
32	(OICA) Proposal for supplement 01 to the original version of UN Regulation No. 130 (LDWS)	F
33	(OICA) Proposal for supplement 01 to the original version of UN Regulation No. 130 (LDWS)	F
34	(OICA) Proposal for supplement 01 to the original version of UN Regulation No. 131 (AEBS)	F
35	(OICA) Proposal for supplement 02 to the 01 series of amendments to UN Regulation No. 131 (AEBS)	F
36	(OICA) Proposal for supplement 01 to the original version of UN Regulation No. 131 (AEBS)	F
37	(OICA) Proposal for supplement 02 to the 01 series of amendments to UN Regulation No. 131 (AEBS)	F
38	(OICA) Regulation No. 64. A temporary-use spare unit, run-flat tyres and/or a run-flat system	D
39	(OICA) Uniform provisions concerning the approval of vehicles with regard to their tyre pressure monitoring systems	D
40	(Germany) Report on the status of work on the issue of electro-hydraulic systems, (ECE/TRANS/WP29/GRRF/2013/29)	F
41	(CLEPA) Proposal Associated with Annex CEL and its Application to Functions or Systems Defined within a Separate Regulation	F
42	(ETRTO) Presentation on Type Approval of AT tyres	F
43	(Sweden and Japan) Proposals to UN R-79 to introduce the requirements of LKAS	F
44	(CLEPA) Presentation on GRRF-78-27	F
45	(Secretariat) Adopted amendments to GRRF-76-06	A
46	(Secretariat) Adopted amendments to ECE/TRANS/WP.29/GRRF/2013/20	A
47	(Secretariat) Adopted amendments to GRRF-78-18	A
48	(OICA) Proposal for amendments to ECE Regulation No. 64 (see Ref. GRRF-78-38)	F
49	(GRRF Ambassador to IWVTA) Report to GRRF on IWVTA	F
50	(OICA) Alternative text presented at document GRRF-78-41	E
51	(CLEPA) R-90 Certification Issue	E
52	(IMMA) Cross reference to UN Regulation No. 10 in UN Regulation No. 78	D

Notes:

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

Annex II

Terms of Reference for the GRRF informal group on Modular Vehicle Combinations (MVC)

A. Introduction

1. The Working Party on Brakes and Running Gear (GRRF) agreed to set up a group of interested experts to amend existing regulations and enable the type approval of vehicles which are a part of Modular Vehicle Combinations, e.g. vehicle combinations consisting of more than one trailer or trailers approved to tow other trailers.

B. Objectives

2. The objectives of the informal group on MVC are:
- (a) The objective of the group is to enable the approval of vehicles, with regards to braking, steering, stability and couplings, which are a part of a modular vehicle combination.
 - (b) To follow the guidelines set out in ECE/TRANS/WP.29/1044/Rev.1.
 - (c) To produce Regulation requirements and definitions which draw on existing texts in the braking, steering and coupling field. This is to be done consistently while remaining practical and workable by differing organizations in various countries. Every attempt is to be made to ensure that the completed text will be understandable to users who are not seasoned experts in the development of braking regulations.
 - (d) To cover vehicles of category N₂, N₃, O₃ and O₄.

C. Rules of procedure

- 3. The informal working group is a subgroup of GRRF, and is open to all participants of GRRF.
- 4. A Chair and a Secretary will manage the informal working group.
- 5. The official language of the informal working group will be English.
- 6. An agenda and related documents will be circulated to all members of the informal working group in advance of all scheduled meetings.
- 7. Decisions will be reached by consensus. When consensus cannot be reached, the Chair shall present the different points of view to GRRF. The Chair may seek guidance from GRRF as appropriate.
- 8. The progress of the informal group will be routinely reported to GRRF – wherever possible with an informal document and presented by the Chair or their representative.
- 9. All working documents will be distributed in digital format. Meeting documents will be made available on the UNECE website of the World Forum for Harmonization of Vehicle Regulation (WP.29).

D. Work plan and time schedule

10. The group has identified that the following UN Regulations need to be amended: UN Regulation No. 13, UN Regulation No. 55, UN Regulation No. 79.

- (a) The first step in the group will be to amend UN Regulation No. 13 and identify what changes are needed in UN Regulation No. 55, which are not addressed in the ongoing Informal Group on UN Regulation No. 55.
- (b) In a second step, the group will address these missing items in UN Regulation No. 55.
- (c) A third step will be to address UN Regulation No. 79.

11. The informal group aims at submitting its proposal to GRRF as an informal document at the September 2015 session and its final proposal as an official document at the GRRF session in February 2016.

Annex III

Adopted amendments to ECE/TRANS/WP.29/2013/63 and ECE/TRANS/WP.29/2013/122

A. Adopted amendments to ECE/TRANS/WP.29/2013/63

Paragraph C.10., amend to read:

"10. In 2009, at the request of the informal working group, AC.3 approved the development of the gtr in two phases: the initial phase being dedicated to harmonizing requirements for passenger car tyres only, and requirements for light truck tyres, which carry a C or LT designation, to be harmonized ~~before the end of 2014~~ as a second phase. In the interim, the existing requirements for C or LT tyres (albeit non-harmonized) are included in the first stage of the gtr for completeness. The current document reflects that decision and contains only harmonized requirements for passenger car tyres, with the LT/C requirements remaining to be harmonized."

B. Adopted amendments to ECE/TRANS/WP.29/2013/122

Paragraph B.5., amend to read:

"5. In 2009, at the request of the informal working group, AC.3 agreed that the gtr should be developed in two phases: the initial phase on harmonizing requirements for passenger car tyres only, and a second harmonization phase on requirements for light trucks tyres, which carry a C (Commercial) or LT (Light Truck) designation ~~before the end of 2014~~. In the interim, the existing requirements for C or LT tyres (albeit non-harmonized) are included in the first stage of the gtr for completeness. The current document reflects that decision and contains only harmonized requirements for PC tyres, with the LT/C requirements still to be harmonized."

Paragraph C.23., amend to read:

"23. The technical content of the gtr has been presented to GRRF both at its seventy-third and seventy-fourth sessions, respectively in September 2012, ~~and~~ February 2013, **and its seventy-seventh and seventy-eighth session respectively in June and September 2014.**"

Paragraph D.26., amend to read:

"26. The informal working group has established in September 2010 a schedule for the development and completion of this gtr. The draft gtr, including Phase II, should be presented to GRRF at its ~~eightieth-fifth~~ session in ~~September 2013~~ **September 2015** and, in the absence of any major disagreement, the final draft including Phase II could be approved at the ~~seventy-seventh~~ **eighty-three** GRRF session in **February 2014 2017**. After GRRF's adoption, the final report will be prepared and sent together with the approved gtr to AC.3 and WP.29 in **June 2014 2017** for probable approval in **November 2015 2017**."

Annex IV

Adopted amendments to UN Regulation No. 117

Paragraph 6.4.1.1., amend to read:

"6.4.1.1. Class C1, C2 and C3 tyres

The minimum snow index value, as calculated in the procedure described in Annex 7 and compared with the SRTT shall be as follows:

Class of tyre	Snow grip index (brake on snow method) ^(a)		Snow grip index (spin traction method) ^(b)	Snow grip index (acceleration method) ^(c)
	Ref. = C1 – SRTT 14	Ref. = C2 – SRTT 16C	Ref. = C1 – SRTT 14	Ref. = C3N – SRTT 19.5 Ref. = C3W – SRTT 22.5
C1	1.07	No	1.10	No
C2	No	1.02	1.10	No
C3	No	No	No	1.25

^(a) See paragraph 3 of Annex 7 to this Regulation

^(b) See paragraph 2 of Annex 7 to this Regulation

^(c) See paragraph 4 of Annex 7 to this Regulation"

Annex 1,

Paragraph 3., amend to read:

"3. "Tyre class" and "category of use" of the type of tyre: ...

...

3.1. Snow tyre for use in severe snow conditions (Yes/No)²


3.2. Traction tyre (Yes/No)²"

Add paragraph 6.4., to read:


"6.4. Snow grip level of the representative tyre size, see paragraph 2.5. of Regulation No. 117, as per item 7. of the test report in the Appendix to Annex 7:.....(Snow grip index) using the brake on snow method², spin traction method² or acceleration method².

² Strike out what does not apply."


Annex 2, Appendix 2, example 1, correct to read:

..  0212345 S2 0236378 ..


Annex 2, Appendix 2, example 3, correct to read:

..  0212345 S2 0236378 ..

Annex 2, Appendix 2, example 4, correct to read:

„  0212345 S2 0236378 „

Annex 2, Appendix 3, example 1, correct to read:

„  0236378 + 0251 „

Annex 4, delete duplicated paragraphs:

~~3.2. Design and preparation of the surface~~

~~3.2.1. Basic design requirements~~

~~—The test surface shall meet four design requirements:~~

~~3.2.1.1. It shall be a dense asphaltic concrete.~~

~~3.2.1.2. The maximum chipping size shall be 8 mm (tolerances allow from 6.3 mm to 10 mm)."~~

Annex 6, paragraph 5.1.5, amend to read:

"5.1.5. R_r is the tyre rolling radius, in metre,"

Annex 6, appendix 1, paragraph 7, delete the note

~~"Note: In cases where a textured drum surface is used instead of a smooth steel surface, this fact is noted in the test report. The surface texture shall then be 180 μm deep (80 grit) and the laboratory is responsible for maintaining the surface roughness characteristics. No specific correction factor is recommended for cases where a textured drum surface is used."~~

Annex 7, paragraph 3.1.4, amend to read:

"3.1.4. Load and pressure

~~The vehicle load shall be such that the resulting loads on the tyres are between 60 per cent and 90 per cent of the load corresponding to the tyre load index.~~

The cold inflation pressure shall be 240 kPa."

Annex V

Adopted amendments to UN Regulation No. 75

Title of the Regulation, amend to read:

"Regulation No. 75

Uniform provisions concerning the approval of pneumatic tyres for ~~motor cycles and mopeds~~ **L-category vehicles.**"

Paragraph 1., amend to read (incl. the new footnotes insertion):

"1. Scope

This Regulation applies to new pneumatic tyres for vehicles of category ~~L1, L2, L3, L4 and L5~~ **L**^{1,2}.

However, it does not apply to tyre types designed exclusively for the "off-road" use, which are marked "NHS" (Not for Highway Service) and to tyre types designed exclusively for competitions.

¹ As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.3, para. 2. -

www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29resolutions.html

² This Regulation defines requirements for tyres as a component. It does not limit their installation on any categories of vehicles."

Paragraph 2.1.3., amend to read:

"2.1.3. ... moped, **all terrain (AT).**"

Add new paragraph 2.16.4.

"2.16.4. The prefix "AT" for all terrain (AT) tyres (e.g. AT 18x11-8)"

Add new paragraph 2.34.

"2.34. AT (all terrain) tyre: means a low pressure tyre designed primarily for the equipment of categories L6 and L7."

Add new paragraph 3.1.15.

"3.1.15. For all terrain (AT) tyres, the symbol identifying the reference inflation pressure as follows:

<i>Symbol</i>	<i>Reference Inflation Pressure (kPa)</i>
☆	25
☆☆	35
☆☆☆	45

"

Add new paragraph 4.1.16.

"4.1.16. For all terrain (AT) tyres, the symbol identifying the reference inflation pressure (see paragraph 3.1.15.)."

Annex 1, paragraph 5.2., amend to read:

"5.2. ... moped, **all terrain (AT)** 2"

Annex 1, add a new paragraph 5.6.

"**5.6. For all terrain (AT) tyres, the symbol (stars) identifying the reference inflation pressure.**"

Annex 5, add a new table

"Table 8: Tyres for all terrain vehicles (AT).

Table 8 (1 of 3)

Tyres for all terrain vehicles (AT)

Tyre size (1)	Measuring rim width code	Section width (mm)	Overall diameter (mm)			Maximum overall width (mm)
			D _{min}	D	D _{max}	
AT16x6-8	5	154	394	406	418	168
AT16x7-7	5.5	177	392	406	420	193
AT16x8-7	6.5	204	392	406	420	222
AT18x7-7	5.5	177	440	457	474	193
AT18x7-8	5.5	177	442	457	472	193
AT18x8-7	6.5	204	440	457	474	222
AT18x9-8	7	227	442	457	472	247
AT18x9.5-8	7.5	240	442	457	472	262
AT18x10-10	8	254	445	457	469	277
AT18x10-8	8	254	442	457	472	277
AT18x11-10	9	281	445	457	469	306
AT18x11-8	9	281	442	457	472	306
AT18x11-9	9	281	443	457	471	306
AT19x6-10	5	154	469	483	497	168
AT19x7-8	5.5	177	466	483	500	193
AT19x8-8	6.5	204	466	483	500	222
AT19x9-8	7	227	466	483	500	247
AT19x10-9	8	254	468	483	498	277
AT20x7-10	5.5	177	493	508	523	193
AT20x7-8	5.5	177	490	508	526	193
AT20x7-9	5.5	177	491	508	525	193
AT20x8-10	6.5	204	493	508	523	222
AT20x10-10	8	254	493	508	523	277
AT20x10-8	8	254	490	508	526	277
AT20x10-9	8	254	491	508	525	277
AT20x11-10	9	281	493	508	523	306
AT20x11-8	9	281	490	508	526	306
AT20x11-9	9	281	491	508	525	306
AT21x7-10	5.5	177	516	533	550	193
AT21x8-9	6.5	204	515	533	551	222
AT21x10-10	8	254	516	533	550	277
AT21x10-8	8	254	513	533	553	277
AT21x11-8	9	281	513	533	553	306
AT21x11-9	9	281	515	533	551	306
AT21x12-8	9.5	304	513	533	553	331
AT22x7-10	5.5	177	541	559	577	193
AT22x7-11	5.5	177	542	559	576	193
AT22x7-12	5.5	177	544	559	574	193
AT22x7-9	5.5	177	539	559	579	193
AT22x8-10	6.5	204	541	559	577	222
AT22x9-10	7	227	541	559	577	247

Table 8 (2 of 3)
Tyres for all terrain vehicles (AT tyres)

Tyre size (1)	Measuring rim width code	Section width (mm)	Overall diameter (mm)			Maximum overall width (mm)
			D _{min}	D	D _{max}	
AT22x9-11	7	227	542	559	576	247
AT22x9-8	7	227	538	559	580	247
AT22x10-10	8	254	541	559	577	277
AT22x10-8	8	254	538	559	580	277
AT22x10-9	8	254	539	559	579	277
AT22x11-10	9	281	541	559	577	306
AT22x11-8	9	281	538	559	580	306
AT22x11-9	9	281	539	559	579	306
AT22x12-8	9,5	304	538	559	580	331
AT22.5x10-8	8	254	550	572	594	277
AT23x7-10	5.5	177	564	584	604	193
AT23x8-10	6.5	204	564	584	604	222
AT23x8-11	6.5	204	566	584	602	222
AT23x8-12	6.5	204	567	584	601	222
AT23x10-10	8	254	564	584	604	277
AT23x10-12	8	254	567	584	601	277
AT23x10-8	8	254	561	584	607	277
AT23x11-9	9	281	563	584	605	306
AT23x12-9	9,5	304	563	584	605	331
AT24x8-11	6.5	204	590	610	630	222
AT24x8-12	6.5	204	592	610	628	222
AT24x9-11	7	227	590	610	630	247
AT24x9-12	7	227	592	610	628	247
AT24x10-11	8	254	590	610	630	277
AT24x11-10	9	281	589	610	631	306
AT24x11.5-10	9	290	589	610	631	316
AT24x12-10	9,5	304	589	610	631	331
AT24x13-9	10.5	330	587	610	633	360
AT25x8-10	6.5	204	612	635	658	222
AT25x8-12	6.5	204	615	635	655	222
AT25x8-13	6.5	204	617	635	653	222
AT25x10-10	8	254	612	635	658	277
AT25x10-12	8	254	615	635	655	277
AT25x11-10	9	281	612	635	658	306
AT25x11-12	9	281	615	635	655	306
AT25x11-9	9	281	611	635	659	306
AT25x11.5-9	9	290	611	635	659	316
AT25x12-10	9,5	304	612	635	658	331
AT25x12-9	9,5	304	611	635	659	331
AT25x13-9	10.5	330	611	635	659	360

Table 8 (3 of 3)
Tyres for all terrain vehicles (AT tyres)

Tyre size (1)	Measuring rim width code	Section width (mm)	Overall diameter (mm)			Maximum overall width (mm)
			D _{min}	D	D _{max}	
AT26x9-12	7	227	639	660	681	247
AT26x10-12	8	254	639	660	681	277
AT26x10.5-12	8.5	268	639	660	681	292
AT26x12-10	9.5	304	636	660	684	331
AT26x12-12	9.5	304	639	660	681	331
AT26x12-14	9.5	304	642	660	678	331
AT27x9-12	7	227	663	686	709	247
AT27x11-12	9	281	663	686	709	306
AT27x12-10	9.5	304	660	686	712	331
AT27x12-12	9.5	304	663	686	709	331

(1) Tyres in Radial construction are identified by the letter "R" in place of "-" (e.g. AT16x6 R 8). In case of Tyre Size designations not included in this table, refer to any edition of one of the following International Tyre Standards for the relevant dimensional data:

- (a) The European Tyre and Rim Technical Organisation (ETRTO) 'Standards Manual';
- (b) The Tire and Rim Association Inc. (TRA) 'Year Book';
- (c) The Japan Automobile Tire Manufacturers Association (JATMA) 'Year Book';
- (d) The Scandinavian Tyre and Rim Organisation (STRO) 'Data Book'.

In that case the nominated International Tyre Standard, to which the tyre conforms, shall be specified in the application for approval.

"

Annex 6, paragraph 1. and Annex 7, paragraph 1.2, add to the table:

"

	Tyre version	Speed Category	Pressure (bar)	Pressure (kPa)
all terrain (AT)	☆	all	0.25	25
	☆☆	all	0.35	35
	☆☆☆	all	0.45	45

"

Annex 8, add a new table for all terrain (AT) tyres with speed symbol "F":

"

<i>Speed (km/h)</i>	<i>Variation in Load Carrying Capacity (%)</i>
50 and below	+ 12
60	+ 7
70	+ 3
80	0
90	- 5
100	- 10
110	- 15
120	- 20
130	- 25

"
