

## **Minutes of sixth meeting of UN ECE, GRRF ad-hoc Group on Global Harmonisation of Tyre Regulations and Tyre Grip – held in Ottawa 13/15 June 2001**

The meeting was chaired by Mr Geoff Harvey of the UK Department for Transport, Local Government and the Regions (DTLR) with the first day devoted to discussion on Tyre Grip and the remaining two days on the draft Global Regulation on Tyres. Delegates attended from the Governments of Canada, Japan, the Netherlands, the United Kingdom and the United States of America and there were representatives of the tyre and vehicle industries of Europe, Japan and the United States of America. The meeting was also attended by Mr Laurent Selles representing the European Union Commission. A list of delegates and addresses is given at the end of this report.

Due to other commitments which prevented attendance for the whole of the meeting, the delegate from the United States, NHTSA, presented the current situation on proposed changes to regulations in the USA, prior to the start of the discussions on tyre grip. The presentation and comments are reported in the discussions on Global Harmonisation.

### **Tyre Grip – Wednesday 13 June 2001**

1 The following documents were introduced before or during the meeting:

TH 34 Minutes of the fifth meeting held in London

TH 35 Issue 6 of draft Regulation (GTR)

TG 18 Outline proposal from the UK on Truck tyre grip

TG 19 Presentation from TUV on the results of the “round robin” testing

TG 20 Presentation from ETRTO on car and truck grip (copy sent by e mail on 17 August 2001)

2 The results of the “round robin” tests which had been carried out on several test sites throughout Europe were presented by Mr W Reithmaier of TUV Automotive Sud- Deutschland. The sites used were, IDIADA (Spain), MIRA (UK), Lelystad (Netherlands) and BaSt (Germany) and the vehicle chosen was an ABS equipped Volkswagen Golf IV. The vehicle was chosen because of the ability to install wheels and tyres of different diameters but the tests did not use the same example of vehicle in all cases. Braking distance and deceleration were recorded between 80km/h to 15km/h using either a fifth wheel or non-contact sensing (Correvit). Tests were carried out on 11 sets of tyres from different manufacturers in comparison with the performance of SRTTs produced in accordance with ASTM E1136 – 1998.

The first set of results showed some inconsistency with the IDIADA track results and those from the other test sites and it was decided to carry out repeat testing at IDIADA and Lelystad using the SRTT. The repeat tests, particularly at IDIADA, confirmed inconsistency in the performance of the track and the SRTTs and led to questioning the suitability of using the SRTT and of specifying and controlling surface condition using the BPN method. These issues will be considered further by TUV.

3 In response ETRTO presented results shown in TG 20 from three industry test tracks, Continental (Contidrom), Dunlop (Germany) and Michelin (Ladoux) together with further results using the SRTT on tracks of Bridgestone and Pirelli. The BPN value for the industry tracks was quoted only for Contidrom at 54,94 but from the figures used in the draft ISO Standard it can be assumed that the others lie between 45 and 65. With the exception of the IDIADA track (58,92) these are lower than the figures for the tracks used by TUV (MIRA – 72,39, Lelystad – 85,57, BaSt – 73,23). Various figures were mentioned for real road surfaces, ranging from 68 – 75 in a 1994 survey in British Columbia, 50 – 55 for normal roads and 65 for good roads in Germany and 50 – 70 SRT in France.

Note that there was not any great understanding of the difference between BPN and SRT and any comments on this will be welcome.

4 It was not possible to draw any conclusions from the "round robin" testing during the meeting and the results must be studied further in order to determine any possible limits for the performance of candidate tyres in comparison with either the SRTT or a tyre taken from a "collective" of current, state of the art, production tyres. One industry view was that it was hoped to replace the USA UTQGS procedure with a more simple but meaningful statement of performance which aimed to improve safety and aid consumer understanding. The aim should be for tyres to meet at least the criterion of the present "B" classification which, coincidentally was matched by the present SRTT.

5 Industry reported that a new SRTT was being developed as the present one dated from 1988/9. It was hoped that the replacement would be available by May 2002.

6 There had been little progress on the alternative trailer based test procedure in the ISO group but the Japanese and USA industry promised that work would start in July and should be completed by November 2001. The trailer test would measure peak performance rather than locked wheel.

7 The UK presented TG 18, an outline proposal for a procedure for wet grip testing of truck tyres. The proposal suggested that truck tyre grip is carried out using a single axle semi-trailer which can be towed at constant speed and continuously records deceleration through peak to locked wheel conditions. The performance of a "candidate" tyre would be judged against that of a current production tyre taken from a "collective" of state of the art tyres. The car SRTT would be used to control and monitor the performance and condition of the test track using commercially available surface friction test equipment such as a trailer. Part of the ETRTO presentation in TG 18 dealt with this issue and European industry was concerned at the lack of an SRTT for trucks, the use of a "collective" and how this could be controlled, and the use of a trailer rather than a vehicle. The UK considered that the use of a vehicle for truck tyre testing was impractical due to the difficulties in accommodating the range of wheel and tyre sizes, including super singles and the number of tyres required for multi-axle vehicles. ETRTO also urged that work on truck tyre grip should be held over until the completion of the car tyre work in the ISO group in order that the same experts could take part. Industry confirmed that there was not any great initiative to begin work to develop a SRTT truck tyre.

8 The time scales for the development of grip test procedures given in the EU proposal for tyre to road noise were confirmed by the EU Commission delegate and the Directive has now been adopted. Its reference is 2001/43/EC and states that by 4 August 2003 at the latest, an amendment shall be adopted in order to introduce grip tests for tyres. It is expected that the proposals will come from this group.

### Global Harmonisation of Tyre Regulations – Thursday/Friday 14/15 June 2001

1 The following documents were introduced before or during the meeting:

TH 34 Minutes of the fifth meeting held in London

TH 35 Issue 6 of draft Regulation

TH 36 ETRTO comments on Issue 6

TH 37 Submission form the UK concerning tyre dimensions

TH 38 Presentation by NHTSA on Upgrade of Tyre Standards for Light Vehicles

TH 39 RMA position statement on Tyre Pressure Monitoring (sent by e mail on 17 August 2001)

2 The NHTSA delegate presented an up-date on the situation regarding changes to the tyre standards for light vehicles (TH 38). These include the intention to develop a new test procedure focussing on high speed and endurance, including a validation test for the tyre pressure monitoring system, a revised bead unseating test, a road hazard impact test and an accelerated ageing test. The timetable is:

Tyre pressure monitoring – Complete rulemaking by 1 November 2001, introduce within 2 years

Tyre performance standard upgrades – Notice of proposed Rulemaking Summer 2001, Final Rule June 2002

Tyre marking and Consumer information – Notice of Proposed Rulemaking Summer 2001, Final Rule June 2002

3 Whilst at this stage tyre pressure monitoring is not being considered as part of this global regulation, it is possible within the general principle to incorporate it at a later stage. Hence it was thought useful to briefly discuss Tyre Pressure Monitoring Systems (TPMS) and the EU delegate confirmed that the EU Commission was also considering introduction of a proposal which would result in mandatory fitment. Industry indicated that there was an ISO Working Group within TC 22 which was considering the subject. A NHTSA survey suggested that the average under inflation was around 6psi (40kPa- c 20%) and NHTSA had initially referred to the requirement for a TPMS to indicate **significant** under inflation. The word **significant** was causing some concern regarding the validity of such systems and industry felt that the vehicle manufacturer had a responsibility to ensure that if the TPMS is arranged to indicate 20/25% under inflation then the tyre choice must ensure that the tyre is able to carry the load and have the speed capability at that pressure. Vehicle stability may also be an issue at these inflation levels. RMA submitted document TH 39 which essentially suggested that a TPMS should *indicate* when the pressure is below the vehicle manufacturer's recommended pressure (placard pressure) and *warn* when pressure falls below an agreed limit. The NHTSA report on available systems (since published in July 2001) should indicate what is possible with available technology.

4 Issue 6 of the draft regulation was then considered item by item but without considering any of the performance criteria. The following changes were agreed:

3.1.7 Amend "but" to read "and"

3.1.13.1 Amend to read: “Load Index means a code number indicating the reference mass a tyre can support under specific, industry standardised, operating conditions (See 3.1.13.4.below and Appendix 2 to this section). Truck tyres designed for fitting in dual formation (twinning) specify two Load Indices as shown in the second example in paragraph 3.1.13 – the first related to single formation fitting and the second to dual formation fitting;”

3.1.13.3 Amend “an alternative” to read “supplementary”

3.1.13.4 Amend to read “Maximum application load capacity means the maximum mass a tyre can support in a specific application and is dependent on the speed category of the tyre, the maximum design speed of the vehicle on which the tyre is fitted, the inflation pressure and the camber angle of the wheels;”

3.1.14.3 Amend to read ““TD” means a tyre with a specially formed large toe intended to locate in a matching groove in the bead seating area of a particular form of millimetric size wheel rim;”

3.1.17 Amend to read “Nominal aspect ratio means the ratio of the nominal section height to the nominal section width expressed as a percentage and rounded to the nearest full or half decade. Rounding is on the basis that if the figure around the decimal point is below 2,5 or 7,5 then it is rounded down and if 2,5 or 7,5 or above it is rounded up;”

3.1.19 Amend “designated” to read “theoretical”

3.3.6 Amend to read “Theoretical rim means a rim width calculated by multiplying the nominal section width by a specific, industry standardised, coefficient depending upon the aspect ratio of the tyre;”

3.3.7 Amend to read “Measuring rim means an actual rim, closest in width to the calculated theoretical rim, on which the tyre is fitted for measuring the physical dimensions;”

3.3.8 Amend to read “Test rim means the rim on which a tyre is fitted for testing and which may be any rim listed in industry standards as appropriate for use with that tyre;”

Existing 3.3.8 to 3.3.11 to be renumbered 3.3.9 to 3.3.13

Appendix 1 Delete “or ZB” from note under table.

Appendix 4 Replace column headings “Bar” and “KPa” with “bar” and “kPa”.

## **Annex 1**

1.1 It was agreed to reconsider this issue and to write to the present control body in the USA on the practicalities of it continuing to manage the system.

2.1.3 Amend to include “an indication of the tyre structure” as part of the tyre size designation.

Delete “CT” from the present example and add a further example 220/60 R 365 89T – TR

Reconsider the other examples given

After long discussion it was decided to retain “P” as the identifier for “car” tyres but to put this and “T/B” and “M/C” in [ ] for the time being subject to alternative symbols or identifiers being agreed.

2.1.3.1 An agreement could not be reached on this paragraph and further discussion was postponed pending the outcome in GRRF.

2.1.8 Amend to put the symbol in [ ] as a new symbol was proposed during the Rome meeting of ISO. Marking of run flat tyres may need further consideration as various designs differ in the speed and distance capabilities when flat. Possibly a minimum distance/maximum speed criterion should be established?

2.1.9 Amend to put the symbol in a 20mm diameter circle.

2.1.10 There was not any agreement to the use of a single identification for snow tyres. This may need to be considered further with regard to "snow" and "severe snow" tyres. The origin of the "mud" aspect was not known.

2.1.11 There was not any agreement to the use of a single identification for special use tyres.

2.1.12 Amend to use the symbol(s) suggested by the UK but without the word "ROTATION". The symbol for "truck" tyres could be omitted.

2.1.13 Separate the date code marking from the certification mark but require it to be adjacent to it.

2.1.15 Add word "index" after "PSI".

3.1.1 It was broadly agreed to redraft this section using "metric designated" in place of "metric series" and to measure the tyre either during or immediately after the load/speed drum test. Changes will be shown in Issue 7 of the draft.

3.1.6 ETRTO wished it to be recorded in the minutes that this requirement only applied to car tyres. There was a suggestion, but no proposal, regarding tread wear indicators to indicate when "Regroovable" tyres were due for regrooving.

General To achieve consistency in use of capital initial letters, for example "Bias" and "bias".

**Annex 2A** Retain as a numbered annex but delete present text on precise test procedure.

**Annex 3** Reword paragraphs 8, 10 and 11 as in TH 19.

**Annex 4** Industry again questioned the validity of this annex in a tyre regulation but it was explained that tyres and their use are obviously allied subjects and that it must be in everyone's interest to see that the use is controlled in order to safeguard the consumer and to ensure that the designed performance of the tyre is not compromised by incorrect application. Examples of the alliance between the tyre and its use were the specification of tyre pressure monitoring systems and run flat tyre systems already discussed.

There was some concern on paragraph 13 but it was agreed that this was an initial supply provision and not an in use provision which could be controlled by individual countries.

ETRTO wished it to be recorded that it maintained its firm opposition to the inclusion of the paragraphs dealing with the stability under braking when fitted with a temporary use spare unit.

1 Amend in line with TH37.

4 Amend in line with TH 37.

5 Amend in line with TH 37.

10 Amend second paragraph to read: "However, in the case of a vehicle occasionally fitted with tyres such as "snow" or "special use" tyres, as defined in paragraph 3 of this Regulation, the speed capability may be the lesser of either the maximum design speed of the vehicle or, in the case of "car" tyres, 160km/h."

12 Amend to add "or systems" after "'run flat" tyres".

## 5 **Dates of further meetings**

In view of the Notices of Proposed Rulemaking expected from the USA, it was agreed to have a special meeting to discuss and formulate the group's response. ETRTO volunteered to hold the meeting in Brussels on 26 and 26 September 2001.

The next full meeting will be on 27/28/29 November 2001 and JATMA kindly agreed to hold the meeting again in Tokyo.

6 The Chairman thought that the meeting had dealt with a lot of detail changes and had been successful in most cases. He thanked all delegates for their patience and cooperation and looked forward to the next meeting in Brussels. Thanks were also expressed to Transport Canada for the excellent facilities and hospitality.

**GRRF Ad-hoc meeting - Global Harmonisation of Tyre Regulations and Tyre Grip****Delegate attendance list**

<b>Name</b>	<b>Company and address</b>	<b>Telephone etc</b>
Winson Ng	Transport Canada 330 Sparks Street Ottawa Ontario, Canada K1A ON5	<b>Tel</b> +1 613 998 1949 <b>Fax</b> +1 613 990 2913 <b>Email</b> ngwk@tc.gc.ca
Eddy de Haes	RDW Vehicle Standards Development Europaweg 205 2700 AT Zoetermeer Netherlands	<b>Tel</b> +31 79 345 8392 <b>Fax</b> +31 79 345 8041 <b>Email</b> edehaes@rdw.nl
Claude Harris	Department of Transportation NHTSA Office of Crash Avoidance 400 Seventh Street SW Washington DC 20590 USA	<b>Tel</b> +1 202 366 2720 <b>Fax</b> +1 202 366 4329 <b>Email</b> charris@nhtsa.dot.gov
Motomu Shinohara	JATMA No 33 Mori Building 8th Floor 3-8-21 Toranomom Mimato-Ku Tokyo	<b>Tel</b> +81 3 3435 9094 <b>Fax</b> +81 3 3435 9097 <b>Email</b> shinohara@jatma.miinet.or.jp
Joseph F Pacuit	The Tire and Rim Association 175 Montrose West Avenue Copley Ohio 44321 USA	<b>Tel</b> +1 330 666 8121 <b>Fax</b> +1 330 666 8340 <b>Email</b> jfpacuit@aol.com
Don Campbell	The Rubber Association of Canada Suite 308 89 Queensway West Mississauga Ontario K2G o29 Canada	<b>Tel</b> +1 905 270 - 8322 <b>Fax</b> +1 905 270 2640 <b>Email</b> RAC@inforamp.net

Name	Company and address	Telephone etc
Steven Butcher	Rubber Manufacturers Association 1400 K Street, NW Washington DC 20005 USA	<b>Tel</b> +1 202 682 4841 <b>Fax</b> +1 202 682 4854 <b>Email</b> steve@rma.org
Walter Reithmaier	TUV Automotive GmbH Ridlerstrasse 57 D – 80339 Munich Germany	<b>Tel</b> + 49(0) 89 5190 3453 <b>Fax</b> +49 (0) 89 5190 3286 <b>Email</b> Walter.reithmaier@tuevs.de
June Satterfield	Michelin 515 Michelin Road Greenville South Carolina 29605	<b>Tel</b> +1 864 422 4704 <b>Fax</b> +1 864 422 3579 <b>Email</b> june.satterfield@us.michelin.com
Steve Padula	Michelin 1 Parkway South Greenville South Carolina 29681 USA	<b>Tel</b> +1 864 458 4440 <b>Fax</b> +1 864 458 6359 <b>Email</b> steve.padula@us.michelin.com
John Rumel	Goodyear Technical Centre - 461G PO Box 3531 Akron Ohio 44309-3531 USA	<b>Tel</b> +1 330 796 3320 <b>Fax</b> +1 330 796 6591 <b>Email</b> jerumel@goodyear.com
Shigeo Shingyoji	Nissan Motor Company 560-2 Okatsukoku Atsugi-shi Kanagawa Japan	<b>Tel</b> +81 (0) 46-270 1416 <b>Fax</b> +81 (0) 46-270 1517 <b>Email</b> s-sing@mail.nissan.co.jp
Georges Dimitri	Michelin Standards and Legislation Technology Centre Ladoux 63040 Clermont Ferrand France	<b>Tel</b> +33 4 73 10 73 18 <b>Fax</b> +33 4 73 10 75 22 <b>Email</b> georges.dimitri@fr.michelin.com



Name	Company and address	Telephone etc
		<b>Tel +</b> <b>Fax +</b> <b>Email</b>
Koichi Fujimura	JATMA No.33 Mori Building, 8th Floor 3-8-21 Toranonmom Minato-ku Tokyo 105-0001	<b>Tel +81 3 3435 9094</b> <b>Fax +81 3 3435 9097</b> <b>Email</b> fujimura@jatme.miinet.or.jp
Takashi Hirai	JASIC Washington Office 1015 18th Street NW Suite 505 Washington DC	<b>Tel +1 202 887 4830</b> <b>Fax +1 202 887 4834</b> <b>Email</b> thirai@mindspring.com
Malcolm Jones	Cooper Avon Tyres Bath Road Melksham Wilts SN12 8AA United Kingdom	<b>Tel + 44 1225 35 7667</b> <b>Fax +44 1225 79 1301</b> <b>Email</b> mjones@coopertire.com
Naomi Mori	Jasic 1119 Shuwa Kioi-cho TBR Building 5-7 Kojimachi Chiyoda-ku Tokyo 102 0083	<b>Tel + 81 3 5216 7241</b> <b>Fax + 81 3 5216 7244</b> <b>Email</b> mori@jasic.org
Lyle Campbell	Cooper Tire and Rubber Co. Lima and Western Avenue Findlay Ohio 45840 USA	<b>Tel +1 419 424 4312</b> <b>Fax +1 419 424 4305</b> <b>Email</b> lgcampbell@coopertire.com
Daniel Davis	Chief, Vehicle Standards and Regulations Transport Canada 330 Sparks Street 8th Floor Tower "C" Ottawa, Ontario K1A 0N5	<b>Tel +1 613 998 1956</b> <b>Fax +1 613 998 4831</b> <b>Email</b> davisda@tc.gc.ca

Name	Company and address	Telephone etc
Laurent Selles	European Commission DG ENTR Rue de la Loi 200/AN882/38 B-1049 Brussels	<b>Tel</b> +32 2 29 63420 <b>Fax</b> + 32 2 29 69637 <b>Email</b> laurent.selles@cec.eu.int
Dale Freygang	Goodyear Tire and Rubber Technical Center PO Box 3531 Akron Ohio 44309-3531	<b>Tel</b> +1 330 796 7073 <b>Fax</b> + 1 330 796 8835 <b>Email</b> dfreygang@goodyear.com
Satoshi Konishi	Bridgestone Corporation Tire Testing Department Ogawa higashi 3-1-1 Kodaita Tokyo 187-8531	<b>Tel</b> +81 42 342 6180 <b>Fax</b> +81 42 344 0250 <b>Email</b> konishi- s@bridgestone.co.jp
P G Malinverni	Pirelli Pneumatici SpA Viale Sarca 222 I 20126 Milano Italia	<b>Tel</b> +39 02 6442 3548 <b>Fax</b> +39 02 6442 2897 <b>Email</b> giovanni.malinverni@pirelli.com
Barthold Meiss	Continental Jadekamp 30 D- 30419 Hannover 71 Germany	<b>Tel</b> +49 511 976 3569 <b>Fax</b> +49 511 976 4043 <b>Email</b> barthold.meiss@conti.de
Geoff Harvey	Department for Transport, Local Government and the Regions 2/02 Great Minster House 76 Marsham Street London SW1P 4DR England	<b>Tel</b> +44 (0) 20 7944 2086 <b>Fax</b> +44 (0) 20 7944 2069 <b>Email</b> geoff.harvey@dtlr.gsi.gov. uk
Gordon W Burford	Department for Transport, Local Government and the Regions 2/02 Great Minster House 76 Marsham Street London SW1P 4DR England	<b>Tel</b> +44 (0) 20 7944 2072 <b>Fax</b> +44 (0) 20 7944 2069 <b>Email</b> gordon.burford@dtlr.gsi.gov. uk