

Unconfirmed Minutes of fifth meeting of UN ECE, GRRF ad-hoc Group on Global Harmonisation of Tyre Regulations and Tyre Grip – held in London 4/5/6 December 2000

The meeting was chaired by Mr Geoff Harvey of the UK Department of Environment, Transport and the Regions (DETR) with the first half 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.

Tyre Grip – Monday 4 December 2000

1 The following documents were introduced for the meeting:

TH 22 Minutes of the fourth meeting held in Zoetermeer

TH 23 Issue 4 of draft Regulation (GTR)

TG 16 Submission by Japan on the influence of age of test surface on grip measurement.

TG 17 Submission by Mr G Dimitri – comments on minutes of fourth meeting

2 The Chairman opened the meeting by referring to the “round robin” testing being carried out by TUV Sud Deutschland with cooperation from the Netherlands and the UK and with tyres supplied by industry. The Netherlands delegate added that the work in testing the fifteen sets of tyres, including the SRTT, on five different sites in Europe was progressing and a report was expected by the end of January/February 2001. The results to date look promising with regard to establishing a comparative test method. The ISO/industry group has suggested two methods, a vehicle based test and a trailer based test, and it is hoped that similar “round robin” testing can be carried out in the USA using the trailer method. There is a further ISO meeting in Florence immediately before the 2nd International Colloquium on Vehicle Tyre Road Interaction on 23 February 2001 with a follow up meeting in October 2001. It is expected that a preliminary draft ISO Standard, covering both vehicle and trailer based testing will be available by June 2001 but the final draft for public comment is unlikely before November 2002. Work has been carried out in Japan with respect to the New Car Assessment Programme (NCAP), which may help the discussions and a paper was promised for the next meeting.

3 It was agreed to accept amendments to items 3 and 4 of the minutes of the fourth meeting as given in document TG 17 and delegates were asked to further consider other proposals in this document regarding the calculation of average deceleration during the test bearing in mind that the intention is to compare the performance of one tyre with another.

4 The Chairman introduced Mr Laurent Selles of the European Union Commission who outlined the situation regarding the proposed Directive on tyre to road noise emissions and the amendments suggested by the European Parliament. These amendments include a 2dB(A) reduction in the noise limits proposed for car tyres, a commitment to introduce grip tests coincident with requirements for tyre rolling resistance from 1 October 2003 and a commitment to introduce proposals for further reductions in tyre to road noise values by around January 2004.

There was general discussion on the issue and whether industry was able to meet these requirements across the broad spectrum of tyres concerned and it was particularly important to proceed with work on a grip test for truck tyres which had not yet received any detailed consideration in the ISO group. However, it was thought that the position would be considered at the ISO SC3 meeting in May and, depending on the availability of delegates, work may possibly begin towards the end of 2001.

The UK agreed that its proposals had been around for some time now and accepted that the proposals were out of date in that it had been agreed that the test procedure would be comparative rather than measuring absolute values. New, outline, drafts would be proposed.

5 With regard to grip testing of truck tyres it was once again confirmed that there was not a truck reference tyre in existence, similar to the SRTT, and it was considered that it would take around five years to develop. Industry referred to the existence of several different types of truck tyre, for example, drive axle tyres, steer axle tyres and free rolling tyres which may need different reference tyres. In principle, regardless of the design for any specific duty, the straight line braking performance should meet minimum criteria and comparison against one reference tyre should be acceptable. The UK suggested that, in its view, because of the difficulties involved with fitting the wide range of tyres to vehicles and the increased number of axles compared to a passenger car, the only approach should be to use a trailer based test. A single axle semi-trailer, braked only on that axle should give results of both comparative peak and locked wheel values at constant vehicle speed.

6 There was general discussion on the impact of the further constraints on tyre performance such as Rolling Resistance and whilst it was agreed that there were ISO Standard test procedures in existence, there was not any known widespread comparative work on current values against which a performance level could be set. Outline agreement had been reached for rolling resistance to be considered by GRRF rather than any of the other expert groups but it was thought that any work on the subject should wait for a direct request from the EU to the ECE. The discussion also brought out the question of the definition of "type" with respect to the increasing and different controls on performance criteria of tyres and this will need to be addressed in the context of type approval.

7 It had been recognised that this would be a short meeting as little work would have been completed since the fourth meeting in Zoetermeer, however, the Chairman thanked the delegates for their continued interest in, and support of, the development of grip tests and looked forward to the next meeting.

NOTE: Transport Canada has now kindly agreed to act as hosts for the next meeting in Ottawa on 13/14/15 June 2001.

Global Harmonisation of Tyre Regulations – Tuesday/Wednesday 5/6 December 2000

1 The following documents were introduced for the meeting:

TH 22 Minutes of the fourth meeting held in Zoetermeer

TH 23 Issue 4 of draft Regulation

TH 24 Submission from NHTSA – extracts from “TREAD” Act (Transportation Recall Enhancement, Accountability and Documentation Act

TH 25 NHTSA Press Release for “TREAD” Act

TH 26 Extract from USA Federal Register concerning “TREAD” Act

TH 27 Submission from RMA on High Speed Test matrix – Light Truck tyres

TH 28 Submission from RMA on High Speed Test matrix – Passenger car tyres

TH 29 Further summary of “TREAD” Act

TH 30 USA RMA comments on NHTSA High Speed test matrix

TH 31 USA General Motors comments on NHTSA High Speed test matrix

TH 32 USA RMA proposals for endurance test procedures

TH 33 USA RMA comments on “TREAD” Act

2 In opening this part of the meeting the Chairman referred to the problems recently experienced in the USA and elsewhere with regard to tyres and which were explained in the minutes of the fourth meeting in Zoetermeer. In view of the possible impact of these problems on the development of the global regulation he asked the USA delegate if he could provide an up-date of the situation.

3 In response, the delegate informed the meeting that the Congressional hearings had resulted in the publication of the Transportation Recall Enhancement, Accountability and Documentation (TREAD) Act which could affect the GTR in at least three areas. These were:

a) to upgrade the tyre performance requirements, concentrating on endurance testing and for which Rulemaking must be completed by 1 June 2002.

b) to improve tyre labelling (marking) to assist in recall operations, for which Rulemaking must be completed by 1 June 2002.

c) to require a tyre pressure warning system to be incorporated into new vehicles (passenger cars and light trucks?) for which Rulemaking must be completed by October 2001 and implemented within two years of the completion of Rulemaking.

In addition there was to be further consideration of the information needed by consumers regarding tyre pressure requirements against vehicle load and how this was presented.

With regard to endurance testing, both NHTSA and the USA industry presented details of the work they were independently conducting on a matrix of tests based around the short duration high speed test of UN ECE Regulation 30 or the USA Society of Automotive Engineers (SAE) test procedures. Involved in the matrix would be variations in load and inflation pressures and testing to destruction at speed increments above the speed capability given by the speed symbol.

Test results may be available for presentation to GRRF in January/February. Sections of industry were critical of the "snapshot" or "one off" nature of the testing and asked what possibilities there were of challenging the results or repeating the tests.

4 With regard to tyre pressure monitoring systems it was reported that current technology was being considered, including both direct indication via pressure sensors and indirect indication via the speed sensing applied to ABS systems. It was also reported that SAE was expecting to publish a draft procedure for pressure monitoring by March 2001, which included details of "nuisance" readings caused by temperature variations. ISO and other independent bodies were working on types of systems which may give various alternatives for consideration and anyone with any contribution was urged to respond to the NHTSA docket 2000-8011 on the subject. It had not been decided whether the monitoring requirement would be incorporated into existing regulations or be the subject of a new, stand alone, regulation but the system would probably be based on the indication of a preset minimum pressure level of 30% under inflation and using the ISO warning indicator symbol.

5 Returning to the performance aspect it was confirmed that the USA will probably be looking for both short term high speed and long term endurance testing for tyres as defects had been found on tyres some 25 000 miles old. Long term was estimated as the equivalent of 5 000 miles. Although it was accepted that public perception was that endurance meant long term, provided that evidence could be presented on the validity of more arduous short term testing then the exclusion of long term testing should still be considered. It seemed pointless to have two test procedures giving the same result. There was, however, the question of ageing and performance testing following accelerated ultra violet radiation and ozone exposure could not be ruled out. The current version of the draft regulation confines the long term, low speed endurance test to bias ply (diagonal), bias belted and radial ply tyres which are non speed rated or have a speed rating less than "Q". The USA industry presented some thoughts and recommendations (Document TH 32) for endurance test procedures essentially based on SAE test procedures or on modified USA FMVSS requirements and confirmed that in its view the proposals were more arduous than existing tests.

6 The discussion again brought into focus the current terminology for tyres suitable for different service duties, for example, passenger car tyres and light truck (LT) tyres, and increases the importance of the ability to identify a tyre according to the schedules to which it has been tested rather than rigidly maintain the reference "passenger car tyre" or "truck tyre". It was stated that the reasons for differences in test schedules for different categories of tyre include the fact that "car" tyres are not generally subject to maximum, or near maximum, load all of the time whereas "truck" tyres are.

7 The question of the situation in the USA and its effect on the global regulation was discussed at some length and it was agreed that there was a dilemma in that the USA was committed to the principle of global harmonisation but had to address the recent problems. The almost inevitable result would be a divergence in thinking on test requirements and unless the work of this ad-hoc group could satisfy the perceived needs of the USA then the possibility of a global regulation receded. There was a view that the commitment of the various parties to the UN ECE Global Agreement and the confirmation that work should be carried out on the development of global regulations for tyres meant that the views of this group should be respected and taken into account. It was suggested that the present draft of the regulation be submitted to NHTSA in response to the Notice of Proposed Rulemaking to indicate the depth of discussion and interchange of ideas on the subject. It was agreed to submit the draft officially in early February 2001 accompanied by an explanatory covering letter indicating the composition of the ad-hoc group but without naming names. There was not any doubt that the problems in the USA and the actions proposed by the USA would delay progress on the global regulation and any thoughts on possible dates for conclusion would have to be reassessed.

8 In order to make some progress through the draft Issue 4 it had been decided to begin at the sections dealing with test requirements. However, there were a few comments on other issues as follows:

- a) paragraph 3.1.3 – it was agreed to delete the wording “all season”
- b) Annex 1 paragraph 2.1.8 – it was agreed to use an internationally recognised form of symbol for “run flat” tyres (can Japan supply an example?)
- c) Annex 1 paragraph 2.1.11 – it was asked if the abbreviation “EHT” could be added to the list of symbols indicating a special use tyre but as with the snow tyre symbols in paragraph 2.1.10 delegates are asked to consider the rationalisation of symbols in the future to one example.
- d) Annex 1 paragraph 2.1.14.1 – it was agreed to reword this to call for marking of the words “TEMPORARY USE ONLY” and to call for “T” to be applied to T type tyres.
- e) Annex 1 paragraph 3.1.1.2.2 – it was agreed to reword this in line with the ETRTO document TH 18.

9 It was confirmed that the test requirements given for the Strength test in Annex 1 paragraph 3.1.2, applied only to bias and bias belted tyres and the content was agreed.

10 The subject of the Bead unseating test had been thoroughly discussed at the third meeting in Tokyo and it was thought that the wording of the requirements given in Annex 1 paragraph 3.1.3 reflected the decisions taken at that meeting. However, the USA asked to revisit the subject and expressed the view that it would be difficult to accept the regulation without any requirements for bead unseating for radial ply tyres generally. The previously expressed views of the practicability of carrying out the test, particularly with lower profile tyres and the validity of the test generally were rediscussed and it was eventually agreed to put the entire requirement as regards radial ply tyres in square brackets and to await the outcome of the USA research into more suitable test procedures. It was also agreed to delete any duplication of wording in paragraphs 3.1.3 and 3.1.3.1.1.

11 With regard to the requirements in Annex 1 paragraphs 3.1.4 and 3.1.5, the Low and High speed endurance tests, it was agreed that these had already been discussed in relation to the USA situation. However, it was also agreed that the global regulation should establish the universal use of the service description as the capability indicator for a tyre and that non speed rated tyres should not be included in the regulation.

12 Annex 1 Appendix 1 paragraph 1.1.1 – it was agreed to amend the heading of the second column to add “Extra load” and to amend “230” to “220”. It was agreed to retain paragraph 1.1.2 as the Appendix in future will also apply to truck tyres.

13 Annex 1 Appendix 1 – it was agreed to insert information regarding correction factors when tyres are mounted on different rim widths – see ISO 10191 for information.

14 Annex 1 Appendix 1 paragraph 2.1 – there was some discussion on whether the result should be the average of the measurements or the maximum, and reference to the information given in different publications. It was eventually agreed to use maximum but in square brackets for the time being. It was also agreed that the measurement should include any protective ribs or bands.

15 Annex 1 Appendix 2 paragraph 1 – it was agreed to delete “radial ply” from the heading of the last column.

It was also pointed out that there was inconsistency in the titles of Appendices with some quoting the application to car tyres and others not. This will be corrected.

16 Annex 1 Appendix 3 Figure 2 – it was agreed to amend the surface finish to 1,3µm and also to remove the entries “20” and “21” from the Table 1.

17 Annex 1 Appendix 5 – it was agreed to delete “ZB” in paragraph 2.6.3 as there are not any ZB car tyres.

18 Annex 2A – it was agreed that the present requirements were out of date and will be restated in line with the discussions on tyre grip.

19 Annex 3 – it was confirmed that the second part of paragraph 2 reflected the current thinking on the use of manufacturer’s facilities. It was also confirmed that the requirements given in paragraph 11 would be drawn to the attention of type approval authorities specifically in relation to recognition of approvals to separate Annexes.

20 Annex 4 – it was suggested that the title be amended to “Issues related to the selection of tyres for new vehicles” but it must be borne in mind that there are issues affecting the in-service use and the issue should be considered further.

There was some discussion of paragraph 1 in relation to the amendments suggested in document TH 21 and it was agreed to reword with the 10% reduction issue in square brackets.

It was agreed to amend and expand the wording of paragraph 3.

In paragraph 5 it was agreed to delete the reference to “H” rated tyres as these are not subject to the load/speed variation. It was also agreed to consider adding the requirement for the tyre load capacity to suit normal vehicle use conditions, for example 88% of the load capacity given by the load index shall be greater than the mass of the vehicle in running order plus the driver. Details may be given in the latest version of ISO 4000.

The wording of paragraph 6 was accepted but it was also suggested that reference be made to applications where 10% bonus load is allowed.

Paragraph 8 was discussed in relation to the practice of some vehicle manufacturers supplying vehicles at certain times of the year fitted with other than normal use tyres. It was eventually agreed to insert the words “special occasional use” into the text.

The requirements of paragraph 9 were thought to be ineffective without a performance standard to judge the rim acceptability in terms of side thrust. It was agreed that the last sentence should be placed in square brackets and that the possibility of incorporating information from the USA FMVSS 110 relating to tyre selection and rims.

Paragraph 12.3 – it was agreed to consider some rewording of the text and of the label to improve consumer understanding.

21 Annex 5 Appendix 1 - it was agreed to delete the reference to “ZB” in footnote 3 to the table.

22 The date of the next meeting was fixed as 13/14/15 June 2001 with the venue to be confirmed.

NOTE: Transport Canada has now kindly agreed to act as hosts for the next meeting in Ottawa.

23 The Chairman thanked all delegates for their attendance and contributions to what, in some areas, were difficult discussions and he looked forward to the next meeting.

GRRF Ad-hoc meeting - Global Harmonisation of Tyre Regulations and Tyre Grip

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