

US Department of Transportation  
National Highway Traffic Safety Administration  
Docket Management  
Room PL - 401  
400 Seventh Street  
Washington  
DC 20590  
United States of America

VEHICLE STANDARDS AND ENGINEERING  
2/02 GREAT MINSTER HOUSE  
76 MARSHAM STREET  
LONDON SW1P 4DR

Tel +44 (0) 20 7944 2086  
Fax +44 (0) 20 7944 2069  
E mail geoff.harvey@dtlr.gsi.gov.uk

Our Ref. VSE – MM 4/23/18  
Your Ref.

13 February 2002

Dear Sirs

**Docket No. NHTSA-01-11157 – Tyre Safety Information**

**Comment from the UNECE Group for Global Technical Regulations for Vehicle Tyres**

By way of introduction, you are no doubt aware that, as a result of an initiative by the United States of America, the United Nations Economic Commission for Europe (UNECE) established an Agreement in 1998 to enable consideration of the global harmonisation of vehicle and component regulations. Under the terms of this Agreement, and as an extension of the Trans-Atlantic Business Dialogue between the United States of America and the European Union, the World Forum for Harmonisation of Vehicle Regulations, WP29, agreed to the formation of a group to develop harmonised regulations for vehicle tyres. The Group comprises representatives from the Governments of the United States of America, Canada, Japan and from European countries, together with personnel from the American, Japanese and European tyre manufacturing industries. In addition the work of the Group has been open to comment from all 38 Countries that are Contracting Parties to the previously introduced but still current, UNECE 1958 Agreement.

As Chairman of the Group I am writing to you to submit its majority view on the proposals contained in Docket No. NHTSA-01-11157 concerning the labelling (marking) of tyres. The current state of all of the discussions is given in Issue 7 of the draft proposals for the global harmonisation of tyre regulations and a copy is annexed to this letter.

It is, however, important to point out that, whilst the representative of the Government of the United States of America has participated in the work of the Group since its inception in July 1999, the comments presented below are taken from the work generally and the representative has not taken any active part in the specific discussions leading to these comments.

The Group's views on the various proposals are:

**1 General**

The Group was pleased to see that reference to its work is made in several areas of the Docket, in particular in Section VI, paragraph 8, but is disappointed that the considerable amount of work that has been carried out on the development of proposals for the global harmonisation of tyre regulations, including tyre identification and certification markings, has been largely dismissed in your proposals

The Group agrees that the principal requirements from the point of view of road safety are that the vehicle user is easily able to identify any tyres involved in a recall procedure, to establish the correct tyre inflation pressure for the loading condition of the vehicle and to identify the correct tyre for the vehicle when existing tyres are due for renewal. The Group is not convinced that some proposals given in the Docket satisfactorily fulfil these requirements and this may lead to unsafe vehicle use.

Contrary to information given by NHTSA, in which the cost of the proposals to the tyre industry is estimated at \$0.01 or less per tyre (\$3m per year) and which in a similar proposal in 1980 was estimated to cost between \$4.5m and \$5.9m, the cost of the present proposals, to the USA tyre industry alone, is estimated by the industry at \$100m annually. This includes loss of production whilst moulds are taken out of use to be modified, the cost of the modifications plus the increased time taken and production costs of having to change two plaquettes or slugs instead of only one in order to change the date of manufacture information. Tyre moulds are normally in continuous use 24hrs per day and 7 days per week and the down time accrues significant cost. Whilst it is not of direct concern to the Group, we are surprised at the estimated insignificant cost to the vehicle manufacturing industry in complying with the placard and Owners Manual requirements.

Tyre production and marketing is an international business and the Group is concerned that the suggestion in section VII (page 65557 of the Federal Register) may be interpreted as meaning that information not pertinent to the USA should not be present on the tyre. One of the aims of the harmonisation of global regulations is to have a consistent form of tyre marking and identification to assist the industry in reducing costs and to aid the consumer in choosing the correct replacement tyre for the vehicle. A decision by an individual country to require only its own unique information should be seen as a retrograde step which is contrary to the principles of harmonisation. In the long term it may also not be in the best interests of the consumer.

## 2 Introduction Date

The Group feels that the introduction dates of 1 September 2003 for P-metric tyres and 1 September 2004 for LT tyres will place considerable economic and practical burdens on industry in having to modify the great number of existing moulds to incorporate the proposed changes. The number of moulds affected world wide is expected to be addressed by the industry but an indication from one of the smaller scale manufacturers is that in its company alone, around 16 000 existing moulds would be affected.

- We suggest that this requirement is amended to apply to new tyre designs from the dates quoted but not to existing designs until , at the latest, 1 September 2007 for P-metric and 1 September 2008 for LT tyres, to allow for the normal four or five year design life cycle of a tyre.

## 3 Tyre Marking

In general the Group supports the requirement for the basic tyre identification information to be moulded into or on to both of the sidewalls, with the exception of information that is subject to systematic change during production (for example, Date of Manufacture).

- We suggest that this is relaxed for asymmetric tyres, that are designed only to be fitted one way, as the marking is only necessary on the outer sidewall. This could also be applied to "whitewall" tyres.
- This arrangement has been the case for many years in the United Nations ECE Regulations Nos. 30 and 54 and the information includes the manufacturer's trade name or mark, the tyre size designation, the tyre structure (for example "R" for a radial ply tyre), the service description (speed symbol and load capacity index), the identification for a snow tyre or a reinforced or extra load tyre and, if applicable, the word "TUBELESS" to indicate that the tyre is designed for use without an inner tube. The tyre size, structure and service description are required to be a minimum height of 6mm and the remainder a minimum of 4mm.
- These requirements have been retained in Issue 7 of the draft proposals for the global harmonisation of tyre regulations (Annex 1, Section 2).

## 4 Tyre Identification Number (TIN)

The Group recognises the importance of the consumer being able to easily establish the identity of the tyre for the purposes of recall and supports the use of an identification feature. This was recognised in the development of the draft of the global harmonisation regulations and is referred to as a Certification Mark in Annex, Section 2, paragraph 2.1.13 of the draft.

### 4.1 Location of marking

- The requirement for identification of the tyre manufacturer's trade name or mark and other information mentioned in 3 above, is a sufficient first indication to the user with regard to a recall. Only when the user has established that it is a particular manufacturer's tyre and size designation that is subject to recall, is it necessary to look for further information.
- The cost to industry and the health and safety risk to production operatives when changing the date of manufacture plaquette or slug, should be positively established before a decision is made to require the TIN on both sidewalls. The Group is aware that with modern moulds that open up vertically, rather than those that open in the nature of a clam shell, there is health and safety legislation in some countries that would prohibit an operator from changing the plaquette in the upper half whilst both the mould was hot and not positively supported in the raised position.
- The number of recall occurrences is unlikely to justify the cost and health and safety risk of implementing the introduction of the TIN on both sidewalls.
- Marking the TIN on one sidewall could be accompanied by a requirement to identify which way round the tyre is to be fitted. Industry currently does this with asymmetric tyres and it has the advantage of not requiring systematic changing during production. The vast majority of tyres supplied could be covered by this requirement, leaving only the small number of "Uni-directional" tyres needing to be marked on both sidewalls.

### 4.2 Rearrangement of the content of the TIN

To have the date of manufacture plaquette or slug between other information would increase the difficulties in producing the mould and possibly in changing the plaquette.

- The proposal may also result in confusion between the old and new marking. For example, the marking AA 2103544600 could be a tyre marked to the old system produced in week 46 of the year 2000 or be a tyre marked to the new system produced in week 21 of the year 2003. There may be other possibilities of confusion with tyres produced using the older three digit date of manufacture coding system.

### 4.3 Size of lettering and typeface

- The Group was concerned by the reference to the visually impaired in relation to the ability to continue to drive.
- It seems to be inconsistent to require lettering of 6mm in height for this feature when the basic identification information, manufacturer, size and so on, is only required to be 2mm high and the lettering on the placard is likely to be of the same order.
- The Group feels that the precise specification of letter height at 6mm and the font to be used is too prescriptive. It suggests that more flexibility is introduced by using the wording "at least 6mm" and referring to the font as being an easily legible sans serif font. In Figure 1 on page 65550 of the Federal Register, Note 3 appears to give an option with the agreement of the Administration.

- The Group has not been able to positively determine from the NPRM whether the revised height of lettering for the TIN will apply to all tyres, including motorcycle tyres. Under the present requirements, tyres having a section width less than 6.00 or a diameter less than 13in are allowed to use a letter height of 5/32in (4mm). An increase in height for motorcycle tyres particularly, will cause considerable difficulty in mould construction due to the curvature of the sidewall and the available space.
- In the draft global regulation, which at present deals essentially with passenger car tyres, the proposed letter height for tyre size designation and so on, is at least 6mm and also that for the Certification Mark (partly equivalent to the TIN) is at least 6mm, which is considered to be an acceptable minimum. The Date of Manufacture is allowed to be smaller, at a minimum of 4mm, which has been the requirement for many years in the UN ECE Regulations and as far as we are aware has not led to any problems of legibility.

## 5 The Placard and Owners Manual

The Group generally welcomes the proposed improvements to the vehicle placard and the consistent location for it.

- We note that only the inflation pressure at the maximum laden condition is quoted and feel that the consumer would be better informed by reference to the recommended pressure both at a normally laden condition, for example, driver or driver and front seat passenger only, and at the maximum laden condition. If it is decided to use only one reference loading condition, the Group would support the use of the maximum figure although it is recognised that this may result in adverse vehicle handling characteristics in the normally loaded condition.
- We also note an anomaly between the placard information and that required in the Owners Manual by section VI, 5 (e) and item 7 of Figure 5 (page 65555 of the Federal Register). The recommended inflation pressure on the placard is that for the maximum load condition and is presumably the pressure on which the tyre pressure monitoring system threshold is based. The required information under 5(e) and item 7 of Figure 5 states that an inflation pressure higher than that recommended may be necessary to safely carry the combined weight of passengers, cargo and luggage. This is confusing and the Group suggests that it is withdrawn or replaced by a recommendation for a lower pressure in the normally laden condition.
- The Group feels that the cost to the vehicle manufacturer may have been underestimated and it may be difficult to find sufficient relatively flat area to accommodate the placard. Current practice for the location of the placard varies; in Europe the "A" pillar tends to be used, whilst in Japan, the "B" pillar is favoured. A consistent location, wherever practicable, plus a consistent alternative, both of which are obvious on entering the vehicle would seem to be a reasonable solution. The Group feels that the seating capacity and vehicle loading information should appear on the Vehicle Placard or Tyre Inflation Pressure Label, if this is separate, and preferably be positioned underneath the pressure information as the heading for this section is "TIRE INFORMATION".
- We also feel that the wording "Compact Spare Tire" and "Spare" should be consistent between the Placard and the Label and, in the case of the Vehicle Placard, be better separated from the main information, for example, by the use of a double or bold line.

## 6 Maximum Inflation Pressure and Maximum Load capacity

6.1 Maximum inflation pressure – this issue has been discussed several times within the Group and the majority view is that it is at best misleading and at worst, dangerous.

- We feel that the proposed introduction of the revised vehicle placard and the information in the Owners Manual, is a much better way of communicating to the user the correct inflation pressures to ensure safe operation of the vehicle under all loading conditions.
- Removal of the redundant maximum inflation pressure figure from the sidewall would encourage users to seek out the correct inflation pressure and would be in the user's best interest in terms of vehicle safety.

- We are reminded of one of the conclusions of the work on vehicle rollover, namely that some vehicles have a greater propensity for rollover at inflation pressures higher than those specified by the vehicle manufacturer.

6.2 Maximum load capacity – the Group feels that this figure on the tyre does not serve any useful purpose and may be misleading for the user.

- The major need for the user is to be able to identify the correct tyre for use on a particular vehicle and we feel that the information on the vehicle placard and in the Owners Manual is the ideal way of communicating this information.
- The maximum load capacity of a tyre in any specific vehicle application is dependent upon the inflation pressure, operating conditions and upon vehicle design parameters such as the camber angle of the wheels. The maximum load capacity stated on the sidewall may not be valid for all vehicle applications.
- The user is unlikely to know exactly what the particular vehicle total mass is under any particular loading conditions and is much less likely to know how to correct the figure stated on the sidewall with relation to inflation pressure and vehicle design characteristics. In this context the Group welcomes the proposal to simplify the user information on the vehicle placard by reference to the combined weight of the occupants and cargo.
- The Group notes that the Docket contains comments on the well established practice of using the service description, comprising the maximum load and speed characteristics of the tyre, and feels that this is the most effective way for the consumer to identify the correct tyre for a particular vehicle. This is shown as “90S” in Figures 1 and 2 on pages 65562 and 65563 of the Federal Register. When selecting the tyre for original equipment, the vehicle manufacturer will take into account anticipated operating conditions, vehicle maximum mass, vehicle designed maximum speed, suspension design parameters such as camber angle and inflation pressure related to vehicle handling characteristics, comfort and so on. The chosen tyre service description will reflect these considerations and it is unnecessary for the user to be able to translate the description in terms of actual load capacity, indeed it could be dangerous for the user to do so.
- The Group would urge the NHTSA to give further consideration to the continued use of this redundant and misleading information.

## 7 UTQGS

The Group would not support any extension of the requirements for UTQGS ratings to be applied to other categories of tyres. We note that on page 65556 of the Federal Register, section 4, that the NHTSA is prepared to consider changes to the UTQGS but that there are time constraints. We wonder whether the constraints are simply the time necessary to prepare proposals to introduce the changes or whether NHTSA wishes to undertake research before making any proposals. The Group feels that some of the information is outmoded and is better addressed by the use of the tyre service description referred to in 6 above. We also feel that as the information is for consumer use at the point of sale, we would ask the NHTSA if it will consider at this stage removing the UTQGS requirement from the sidewall of the tyre and to use only the paper band presently used around the tyre prior to use.

### 7.1 Treadwear rating

- This information applied to the sidewall of the tyre is of very doubtful value to the consumer as tyre life is too dependent upon operating conditions, driving style and so on. Its use on a paper label up to the point of sale and use, together with any other warranties issued by the tyre manufacturer and information regarding the variability in tyre life to be expected in the real world is probably as much as is necessary.

## 7.2 Temperature rating

- This is information which is required by the consumer to identify the correct replacement for a tyre that the vehicle manufacturer has decided is suitable for the application. In this case the vehicle manufacturer will choose a tyre which has a suitable service description, particularly with regard to the speed rating, as this ensures that the tyre shoulder temperatures attained in use are within an acceptable range. The choice of replacement tyre should therefore be based on the use of the service description as this will give the consumer the complete information necessary to select the correct tyre.

## 7.3 Traction rating

- There has been a great deal of discussion with regard to tyre grip and the effect on this aspect of other regulatory controls on tyre performance such as tyre to road noise emissions.
- A UNECE group and an International Standards Organisation (ISO) group are currently working on test procedures and grip levels to establish a minimum grip level consistent with the safe use of vehicles. It is thought to be in the best interests of the consumer to apply a minimum grip level but this would not prevent tyre manufacturers from producing tyres with higher grip levels and informing the consumer through advertising or through the application of information on a paper band at the point of sale.
- It is known that the majority of tyres supplied in the USA and in Europe are graded "A" or "AA" in the UTQGS system and it is at or near these sorts of levels that the minimum will be set. It is arguable whether any level less than "B" is satisfactory for general road safety.

## 8 Specific response to Request for Comments on Particular Issues (Section VII)

(1) The Group feels that the Secretary should not become involved in definitions for what constitutes a reasonable amount of luggage.

The vehicle manufacturer has the responsibility for ensuring that the vehicle is equipped with tyres which have a load capacity, at the recommended inflation pressure, and taking into account anticipated operating conditions and vehicle design parameters, that is suitable for the declared maximum permissible mass of the vehicle. Similar constraints apply to the manufacturer's declared values for the maximum permissible mass that can be applied to each axle of the vehicle.

It is accepted that the average weight of the population may have increased from the figure of 150lb (68kg), currently used for calculation purposes, but we feel that it is for the vehicle manufacturer to take this into account in the difference between the unladen mass and the maximum permissible mass of the vehicle. The manufacturer should ensure that there is sufficient load capacity to allow the user to take advantage of the number of seating positions provided and the anticipated additional luggage or cargo that the user is likely carry. The situation will be largely dictated by the marketplace and consumer choice of a vehicle that is suitable for their individual requirements. The information proposed for the placard, namely the difference between unladen mass and maximum permissible mass, will be sufficient for the user to determine the passengers and load that can be carried.

The Group would also wish to point out that the greater the difference between the unladen and the maximum permissible mass increases the importance of having two sets of figures for inflation pressure, one for a normal running condition with driver only or driver plus front seat passenger and one for the fully laden condition.

(2) The Group recognises that on page 65557 of the Federal Register, paragraph 8, the NHTSA has commented upon the International Harmonisation issue. However, the Group would ask the NHTSA to reconsider the content of the draft harmonised regulation for tyres, that, in the form of Issue 7, is attached to this submission. The draft is based on a global industry review of existing standards and regulations in many countries, including the USA, most of Europe, Japan, China, Brazil and Saudi Arabia. It does not reflect the lowest common denominator in terms of performance requirements but rather seeks to move forward and one of the areas of advance is considered to be harmonisation of tyre markings in order to inform and aid the consumer.

The marking requirements are given in Annex 1, Paragraph 2 of the draft, and the basic marking is that given in paragraph 2.1.3. This fully identifies the tyre in terms of its size and in-service performance by means of the size designation and service description which are chosen by the vehicle manufacturer as being suitable for use on the particular vehicle. An example of the marking, given in Annex 1 to the draft regulation is:

[P] 185/70 R 14 89T where:

[P] is the tyre group "Car tyre"

185 is the nominal section width;

70 is the nominal aspect ratio;

R indicates that the structure is radial ply - alternatively B indicates bias belted and D, or the absence of any marking, indicates a diagonal ply tyre;

14 is the rim diameter code ("d" symbol);

89 is the load index;

T is the maximum speed capability associated with the load capacity given by the load index;

This marking is identical in format to that shown for a typical vehicle placard in Figures 1 and 2 on pages 65562 and 65563 of the Federal Register, that is this NPRM, Docket number 11157. The reason why the letter "P" is shown in square brackets, [ ], in the draft, is that it has not yet been finally agreed that this will be used to identify a tyre that has been tested to the particular schedule for tyres primarily designed for use on passenger cars.

The service description, 89T in this example, is considered to be the best way of communicating to the consumer the specification of tyre needed to replace existing tyres on the vehicle and, as discussed in 6 and 7 above, it can satisfactorily take the place of any sidewall information such as maximum load capacity and the UTQGS Temperature rating. The form of marking has been in use, certainly in Europe, for many years, has widespread consumer acceptance and is not known to have caused any problems in application.

You should also note that the draft contains harmonised requirements for other markings to ensure correct consumer choice. These include, "TUBELESS" indicating that the tyre is suitable for use without an inner tube, "REINFORCED" or "EXTRA LOAD", a "RUN FLAT" tyre, a uni-directional tyre that should only be mounted in the appropriate direction of rotation and a tyre suitable for use in snow.

The Certification Mark and Date of Manufacture referred to in paragraphs 2.1.13 and 2.1.14 is based on the current USA DoT "TIN" requirements but modified slightly to indicate the number of the regulation with which the tyre complies.

The benefits of the global harmonisation of tyre regulations to the industry and consumer have been outlined many times and the draft referred to is the current stage of discussions that were begun largely at the initiative of the USA in relation to the Trans-Atlantic Business Dialogue between the USA and the European Union.

(3) The Group is concerned that this may be interpreted as meaning that only information required by the USA Standards should be placed on the tyre.

Tyre production and marketing is an international business and we feel that a decision by an individual country to require only its own unique information should be seen as a retrograde step which is contrary to the principles of global harmonisation. In the long term it may also not be in the best interests of the consumer. One of the aims of the harmonisation of global regulations is to have a consistent form of tyre marking and identification to assist the industry in reducing costs and to aid the consumer in choosing the correct replacement tyre for the vehicle.

The use of such unique marking information would generate market specific vehicles and tyres requiring different production runs, separate storage, separate product code, separate inventory and so on, depending on the country of destination of the product. This would dramatically affect the flexibility of vehicle and tyre production and supply with attendant cost and environmental implications.

## 9 Conclusion

I hope that you will find the comments of the Global Harmonisation Group helpful and constructive in advancing the cause of consumer safety through improvements in tyre marking and in other requirements to enable the consumer to choose the correct tyre for the vehicle.

We are certainly happy that proposals are being made to ensure that consumers have the necessary information available to maintain the tyres at the correct inflation pressure to ensure safe operation with minimal risk of damage to themselves or to the tyre. Our concern is that retention of some existing information may be confusing and counter productive in the education of consumers.

Yours faithfully

Geoff Harvey  
Chairman of the UNECE ad-hoc Group for the development of Global Technical Regulations for Vehicle Tyres

Attached – Issue 7 of the Draft Harmonised Provisions Concerning Pneumatic Tyres for On-road Vehicles