

Considerations on the draft amendments to existing Regulations  
Proposal for the 02 series of amendments to Regulation No. 64  
(Temporary-use spare wheels/tyres)

## **BACKGROUND**

At its sixty-six session in September, GRRF discussed the remaining open items of document ECE/TRANS/WP.29/2009/129.

## **PROPOSALS**

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

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

### **Justification:**

It is to avoid confusion with the combinations of temporary spare wheels or units, Run flat tyres or systems and the TPMS. The headline should clearly state, that it concerns also the approval of a TPMS on its own, not only in combination with one of the mentioned tyre types or systems.

Paragraph 5.3.3.1., amend to read:

- 5.3.3.1. The TPMS shall be tested according to the test procedure set out in paragraph 2.6.2. of Annex 5. When tested to this procedure, the TPMS shall illuminate the warning signal described in paragraph 5.3.5. within not more than [30] [60] minutes of cumulative driving time after the in-service operating pressure in any of the vehicle's tyres, up to a total of four tyres, has been reduced by 20 per cent **or to the minimum cold inflation pressure, whichever is higher.**

### **Justification:**

The tyre industry is not in agreement that only the tyre pressure threshold of 20 % below the recommended pressure for air diffusion loss on its own, is indicated in the new regulation under consideration. Tyre industry request that  $P_{\min}$  is added to the 20% threshold, and both thresholds to

be considered as the lowest permissible threshold whichever is coming first, when the tyre deflates.

Tyre industry wants to emphasize that, for tyre durability reasons, when the tyre deflates by air diffusion and is going below the minimum cold inflation pressure of the tyre ( $P_{min}$ ) needed to carry the vehicle load, such situation is not acceptable. Such a pressure condition may be met over a period of several months, allowing tyres to operate below  $P_{min}$ , which means over deflected, i. e. overstressed.

The request for  $P_{min}$  as real lowest threshold, when deflating, is based on the knowledge of the failure behavior of pneumatic tyres. As a matter of fact, the lower is the tyre inflation pressure, the higher is the tyre deflection, and the wider is the resulting footprint area. Generally, the footprint area should be sufficient in order to transfer the required braking and cornering forces (this would be impossible with a too narrow footprint) - but on the other side the tyre deflation should not be too high, because this would result in an structural overstress condition, compromising the tyre long term or even short term integrity, depending on the cases.

Therefore, based on the consolidated knowledge of the failure behavior of pneumatic tyres, the tyre industry prescribes in its standards the international harmonized minimum pressure for carrying the load  $P_{min}$ , as the real lowest threshold which can never be exceeded.  $P_{min}$  is specific for every tyre size and taken as one of the key references by the vehicle industry for the selection of the proper tyre type to be fitted to any given vehicle.

See also  $P_{min}$  definition in ETRTO Engineering Design Information 2009, page PC.25, or ETRTO Standards Manual 2009, page P.4.

Add new paragraph 5.4., to read:

**“Any reliable TPMS does not exonerate the driver from regular pressure checks. In particular, if the inflation pressure at the point of illumination of the telltale is below the pressure required to carry the load of the vehicle according to tyre industry standards, the vehicle manufacturer must advice the customer that he/she still needs to check the tyre pressure regularly.**

**It must be guaranteed that tyre pressure threshold and warning time are always respected in any tyre condition of use and in all vehicle operating conditions.”**

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