

PROPOSAL FOR THE 01 SERIES OF AMENDMENTS TO REGULATION No. 64
(TEMPORARY USE SPARE WHEELS/TYRES)

Comments to the EC proposal WP.29-142-03

Submitted by the representative of OICA

Introduction

The GRRF proposal to amend UNECE R64 by adding requirements for run-flat tyres has been submitted to WP29 as ECE/TRANS/WP29/2007/31, following intense expert discussions.

OICA fully supports the GRRF proposal. It clarifies the provisions for Run-Flat Tyres which were not yet specified in any UNECE Regulation and it represents the state of the art, since it is essentially based on the only existing regulation worldwide concerning Tyre Pressure Monitoring Systems (FMVSS 138 standard of the USA).

OICA was consequently surprised that the EC, after supporting the GRRF proposal at the last GRRF session, recently submitted informal document WP29-142-3, dramatically changing the proposed performance requirements. OICA therefore submits the following comments.

Administrative process

OICA wishes to point out that the GRRF proposal was adopted almost unanimously at the last GRRF session in February 2007 (also with the support of the EC expert), after detailed review of the various proposals.

The EC proposal WP.29-142-3 however contains new technical requirements which differ very substantially from the GRRF proposal. It would therefore seem appropriate that such technical proposals be first of all reviewed by the appropriate Working Party, where the necessary expertise on such complex matter is present, rather than trying to review this at WP.29 level. OICA believes that the recently approved GRRF Informal Group on Tyre Pressure Monitoring Systems would be the appropriate platform for an efficient technical discussion.

General comments to the EC justification

In OICA's view, the EC proposal attempts to combine two separate, albeit closely related, topics: Run-Flat Warning Systems (RFWS), which are specific for Run-Flat tyres in UNECE R64, and Tyre Pressure Monitoring Systems (TPMS), which are being considered for a future requirement on all types of tyres.

The objective of the current GRRF proposal is simply to clarify the requirements for run-flat tyres and their installation, since this subject is not covered by any current UNECE Regulation. The absence of problems with current systems clearly suggests that there is no urgency to increase the stringency of the requirements proposed by GRRF. The EC proposal however aims at imposing on RFWS under UNECE R64 the same characteristics as future very sophisticated TPMS, even though the scope is clearly limited to temporary use spare tyres.

In addition, OICA wishes to recall that, at WP29 in March 07, the EC representative recognised that the GRRF proposal to amend UNECE R64 "was a first step of improvement and that further work should be done to introduce more advanced tyre pressure monitoring systems (TPMS)..." (quoted from §33 of the report). OICA can support such statement, under the condition that these future GRRF studies demonstrate that such advanced TPMS systems will effectively improve traffic safety or environment and have a positive cost-benefit-relation. In addition, OICA wishes to stress that the current GRRF proposal contained in ECE/TRANS/WP29/2007/31 represents the state of the art, notwithstanding the fact that future developments will undoubtedly improve the technical specifications and performance, as is the case with any technology.

Even more importantly, WP.29 at this same session in March 07 agreed with the GRRF proposal to establish a new informal group on tyre pressure monitoring systems (TPMS), "with the understanding that the whole issue of TPMS needed careful consideration before undertaking any regulatory action." (quoted from §34 of the report).

On the basis of the above, OICA believes that the EC proposal WP.29-142-03 in effect pre-empts any future work at GRRF on Tyre Pressure Monitoring Systems, in contradiction to the WP29 agreement.

Finally, OICA also wishes to draw WP29's attention to the fact that the proposed amendments to UNECE R64 affect only the vehicles fitted with "run flat tyres", i.e. an increasing, but still extremely small part of the market. The EC proposal, compared to the GRRF proposal, would have virtually no impact on the safety or on the environment (15 minutes earlier warning for only a very small proportion of the fleet). On the other hand, the EC proposal would lead to very severe or even unfeasible requirements for an optional technology and consequently discourage its installation.

Sophistication of technology versus reliability

During the development of its proposal to amend UNECE R64, GRRF also was informed of serious concerns regarding the fact that, at the present time TPMS components have a high number of failures, as also confirmed by the complaints addressed to NHTSA's Office of Defects Investigations regarding failures of TPMS (report of GRRF-60, §31).

In this respect, it is to be noted that the EC proposal WP.29-142-03 calls for requirements which are much more severe than those contained in FMVSS 138, thereby driving this technology to its limits and consequently most likely resulting in a large number of failures, false detections and consumer complaints.

OICA is also extremely surprised by the EC statements that the cost for a direct TPMS system would be around \$30 or 22 € since the experience of several manufacturers is clearly very different. Manufacturers indeed indicate a much higher (factor 2 - 4) cost when purchasing such systems from suppliers. Furthermore, any objective cost evaluation also needs to consider the additional user costs for replacement tyres or for additional wheel sets (e.g. winter tyres).

Technical comments to WP.29-142-03

Notwithstanding the above comments of a more general nature, the EC proposal WP29-142-03 needs careful reconsideration in view of the fact that, after a quick review, OICA identified at least the following issues which need further consideration:

- **Vehicle speed for warning:** § 2.1.2.4 of Annex 4 in WP.29-142-03 requires a test speed above 25 km/h, which does not correspond to the basic speed requirement of 40 km/h or faster prescribed in § 5.1.6. - (Contradiction with basic requirement).
- **Tyre pressure for warning:** § 2.1.1.3 of Annex 4 in WP.29-142-03 specifies a pressure 100 kPa below the manufacturer's recommended pressure, which does not correspond with the basic requirement of a run flat pressure ranging from 0 to 70 kPa prescribed in § 5.1.6.3. and 2.5. - (Contradiction with basic requirement).
- **Cumulative detection time:** § 2.1.1.7 of Annex 4 in WP.29-142-03 requires the detection time to be met at a speed of 130 km/h or faster, but § 2.3 requires the same for the vehicle driven between 40 and 100 km/h. - (Contradiction within the test method itself)
- **Learning phase:** Both the ISO standard 21750 and the FMVSS 138 include a “learning phase” to initialise the system (checking the relevant parameters). The EC proposal WP.29-142-03 does not include this learning phase, and hence deviates from all existing standards.
- **Low pressure detection time:** para. 2.1.1.5. of Annex 4 in WP29-142-03 requires a detection time of 5 minutes instead of 20 minutes in the original GRRF proposal. Experience shows that even direct systems, after 5 minutes, may have only 60% probability of correct low tyre pressure detection, leading to 40% of false detection which is neither acceptable nor understandable to the driver. In addition, many factors need to be taken into consideration in real life circumstances, such as component masking, metal reinforcements in tyres, changes of temperature or altitude, electro-magnetic interferences, sensor battery capacity, sensor activation technology, etc (see Annex 1 for more details).
- **Failure detection:** para. 2.2.3.b) of Annex 4 in WP.29-142-03 requires a failure detection of less than 5 minutes. This is more severe than any existing requirement.

Conclusion

In conclusion, OICA supports WP.29 approval of the GRRF proposal ECE/TRANS/WP29/2007/31, since this represents the state of the art and clarifies the minimum requirements to be fulfilled by Run-flat tyres in the framework of UNECE R64. The whole issue of Tyre Pressure Monitoring Systems should, as agreed by WP.29 in March 07, be reviewed in detail by GRRF and its TPMS Informal Group, taking into account all relevant aspects of safety, reliability, consumer satisfaction, costs and expected benefits.

Informal Document No. **WP.29-142-7**
(142nd WP.29, 26-29 June 2007,
agenda item 4.2.6.)

Once GRRF and its TPMS Informal Group have done their work on the wider subject of Tyre Pressure Monitoring Systems, it may be appropriate to update the Run Flat Warning System requirements in UNECE R 64 to take account of latest developments, whatever the most cost effective technologies are.

OICA believes that approval of the EC proposal WP.29-142-03 at this time would be premature and counter-productive.

Annex 1

Explanation of some technical concerns with direct systems

1. When the vehicle is stationary, the receiver can sometimes not detect the sensor signal because of suspension/technical component masking
2. Metal reinforcements in tyres can affect data transmission (especially in the case of non-OEM replacement tyres, which were not designed for specific TPMS systems)
3. Due to changes of temperature or altitude (e.g. leaving a garage in winter, driving down from a mountain), the system needs time before normal values can be recorded.
4. Electro-magnetic environment due to vehicle itself (ITS equipment) or external to the vehicle can affect data transmission
5. In order to protect sensor battery lifetime, the frequency of intermittent data emissions must be controlled (low frequency at low speed, higher frequency at high speed); requiring a high frequency of data emissions in all cases consequently reduces battery lifetime.
6. Sensors activated by a "g" switch need a certain wheel rotation and therefore vehicle speed (minimum about 40 km/h) before being activated.
7. Direct systems do only work, if the suitable sensors are attached to the wheels. But vehicle users may not be willing to spend the money for the sensor equipment on replacement wheels or on additional wheel sets (e.g. for snow tyres). In such cases they may mount wheels without sensors and ignore the resulting failure message. On the contrary, indirect systems do not need wheel-mounted hardware and will therefore work with all wheels, which have been homologated for that vehicle.
8. In case of direct systems with rim-attached sensors these TPMS sensors may be damaged during tyre change.
