
**Proposal for amendments to ECE/TRANS/WP.29/GRRF/2016/5
(New Regulation on TPMS)
as amended by GRRF at its 81st session**

I. Proposal

Paragraph 5. to 5.5.5., amend to read:

“5. Specifications and tests

5.1. General

5.1.1. Any vehicle of categories M₁ up to 3,500 kg and N₁, in both cases with all axles equipped with single tyres, and fitted with a tyre pressure monitoring system complying with the definition of paragraph 2.11. shall meet the performance requirements contained in paragraphs 5.1.2. to 5.5.5. of this Regulation over a wide range of road and environmental conditions encountered in the Contacting Parties.~~below and.~~

5.1.2. ~~Any tyre pressure monitoring system fitted on a vehicle shall comply with the requirements of Regulation No. 10.~~

The effectiveness of the tyre pressure monitoring system fitted on a vehicle shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by fulfilling the technical requirements and respecting the transitional provisions of Regulation No. 10 by applying:

(a) The 03 series of amendments for vehicles without a coupling system for charging the Rechargeable Electric Energy Storage System (traction batteries).

(b) The 04 series of amendments for vehicles with a coupling system for charging the Rechargeable Electric Energy Storage System (traction batteries).

5.1.3. The system shall operate from a speed of 40 km/h or below, up to the vehicle's maximum design speed.

~~5.1.4. The vehicle shall fulfil the tests (puncture, diffusion and malfunction) as specified in Annex 3.~~

5.2. Tyre pressure detection for incident-related pressure loss ~~(puncture test).~~

5.2.1. ~~The TPMS shall be tested according to the test procedure set out in paragraph 2.6.1. of Annex 3. When tested to this procedure, the TPMS shall illuminate the warning signal described in paragraph 5.5. within~~ not more than ten (10) minutes of cumulative driving time after the in service operating pressure in one of the vehicle's tyres has been reduced by twenty (20) per cent or it is at a minimum pressure of 150 kPa, whatever is higher.

5.3. Detection for a tyre pressure level significantly below the recommended pressure for optimum performance including fuel consumption and safety ~~(diffusion test).~~

- 5.3.1. ~~The TPMS shall be tested according to the test procedure set out in paragraph 2.6.2. of Annex 3. When tested to this procedure, the TPMS shall illuminate the warning signal described in paragraph 5.5. within not more than sixty (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 twenty (20) per cent or it is at a minimum pressure of 150 kPa, whatever is higher.~~
- 5.4. Malfunction detection ~~test.~~
- 5.4.1. ~~The TPMS shall be tested according to the test procedure set out in paragraph 3. of Annex 3. When tested to this procedure, the TPMS shall illuminate the warning signal described in paragraph 5.5. not more than 10 minutes after the occurrence of a malfunction that affects the generation or transmission of control or response signals in the vehicle's tyre pressure monitoring system. If the system is blocked by external influence (e.g. radio-frequency noise), the malfunction detection time may be extended.~~
- 5.5. Warning indication.
- 5.5.1. The warning indication shall be by means of an optical warning signal conforming to Regulation No. 121.
- 5.5.2. The warning signal shall be activated when the ignition (start) switch is in the "on" (run) position (bulb check). This requirement does not apply to tell-tales shown in a common space.
- 5.5.3. The warning signal must be visible even by daylight; the satisfactory condition of the signal must be easily verifiable by the driver from the driver's seat.
- 5.5.4. The malfunction indication may be the same warning signal as the one used to indicate under-inflation. If the warning signal described in paragraph 5.5.1. is used to indicate both under-inflation and a malfunction of the TPMS, the following shall apply: with the ignition (start) switch in the "on" (run) position the warning signal shall flash to indicate a malfunction. After a short period of time the warning signal shall remain continuously illuminated as long as the malfunction exists and the ignition (start) switch is in the "on" (run) position. The flashing and illumination sequence shall be repeated each time the ignition (start) switch is in the "on" (run) position until the malfunction has been corrected.
- 5.5.5. The tell-tale of the warning described in paragraph 5.5.1. may be used in a flashing mode in order to provide information about the reset status of the tyre pressure monitoring system in accordance with the owner's manual of the vehicle.”

II. Justifications

1. At the 79th GRRF session, the European Commission proposed to revise the TPMS requirements when splitting Regulation No. 64 in particular in line with a study carried out at EU level on safety-related aspects of tyre use (GRRF-79-35). This proposal was not endorsed by GRRF, due to possible time delays for achieving IWVTA target of 2016.
2. Taking into account the concerns expressed with respect to the timing, the Commission would like to propose at this stage a less far reaching proposal, but one which would tackle the most urgent issue, which is to ensure that the behaviour of vehicles, with

respect to their tyre pressure monitoring systems, in real driving conditions is in line with their behaviour as checked during type-approval tests.

3. To this end, the proposal clarifies what should be checked at type-approval level and what is an obligation for manufacturers. In the present case, it clarifies that the TPMS performance requirements shall not only be met when the vehicle is tested in accordance with Annex 3 to the Regulation, but it shall meet the TPMS performance requirements also when the vehicle is used on the road.

4. The Commission is generally committed to review the provisions of all the UN Regulations to which the EU has acceded, and, when necessary, propose corrections to the concerned regulations to ensure that vehicles comply with regulatory requirements in real driving conditions, and not only when they are tested. This is particularly relevant with the increasing development of software in vehicles.

5. It should be noted that NHTSA was also requested to update US TPMS standards:

http://thomas.loc.gov/cgi-bin/cpquery/?&sid=cp114qe9w1&r_n=hr357.114&dbname=cp114&&sel=TOC_1356419&
