

**Proposal for amendments to  
ECE/TRANS/WP.29/GRRF/2009/10 (TPMS)**

**A PROPOSAL**

Paragraph 5.3.1. amend to read:

When tested according to paragraph 6.2.6.2., the TPMS shall illuminate the warning signal described in paragraph 5.5 within not more than ~~€€~~ **30** minutes after the in-service operating pressure in one of the vehicle's tyres, up to a total of four tyres, has been reduced by [~~20~~ **15%**].

Paragraph 6.1.4.1. amend to read:

The vehicle ~~may~~ **shall** be tested ~~at any condition of load~~ **unladen and fully laden up to the maximum vehicle mass**, the distribution of the mass among the axles being that stated by the vehicle manufacturer without exceeding any of the maximum permissible mass for each axle.

~~However, in the case where there is no possibility to set or reset the system, the vehicle shall be unladen.~~ There may be, in addition to the driver, a second person on the front seat who is responsible for noting the results of the tests. The load condition shall not be modified during the test.

Paragraph 6.2.4 amend to read:

6.2.4. "Learning **and tyre temperature stabilisation** phase"

Insert new paragraph to read:

**6.2.4.3. "Following the learning phase drive the vehicle on the test course until all of the tyres have reached their normal operating temperature. The tyre pressure is then measured and the recorded value will form the test parameter known as " $P_{warm}$  "."**

Paragraph 6.2.5.3. amend to read:

Procedure for the diffusion test according to paragraph 5.3  
Deflate all four tyres, until the deflated tyres are at  $P_{warm}$  [~~- 20~~ **15%**], namely  $P_{test}$ .

Paragraph 6.2.5.4. Delete

~~In both cases above, a tolerance of [5%] of  $P_{test}$  shall be added to the deflation percentages for the actual test.~~

Paragraph 6.2.6.2.1. amend to read:

Drive the vehicle along any portion of the test course (not necessarily continuously). The sum of the total cumulative drive time shall be the lesser of ~~60~~ 30 minutes or the time at which the low tyre pressure telltale illuminates.

**B Justification**

In relation to diffusion, the aim of fitting TPMS is to maximise CO<sub>2</sub> savings in the event of tyres losing pressure over time, but where the savings are distance-related. TPMS systems which can detect 15% deflation are technically feasible and deliver greater CO<sub>2</sub> savings than less sensitive systems. UK cost benefit estimates suggest that systems of this higher accuracy are cost-neutral.

The time taken to notify the driver should be within the “normal” amount of time the vehicle is driven continuously. Specifying too long a period will result in TPMS which only operates on occasional, long journeys.

Data on UK car use suggests that journeys of longer than 60 minutes duration account for very roughly 20% of total kilometres travelled by car. The requirement that TPMS indicate within 60 minutes driving (which may be conducted cumulatively) is therefore unlikely to ensure TPMS systems that operate frequently enough in real use. A substantially shorter test duration is required. Approximately 45% of the total distance travelled by cars in the UK is made up of journeys of 30 minutes or longer. For this reason the UK proposes a 30 minute duration of test.

The test method has to ensure that the system is tested under at least the extremes of permitted placard tyre pressures, hence testing at minimum and maximum vehicle masses.

The demand for a stabilised tyre pressure ensures the starting point is always the same under given ambient and driving conditions. Test repeatability should also improve. The UK therefore proposes that the vehicle be driven longer than the 20 minutes minimum, until stable pressures have been reached. The choice whether to monitoring tyre pressure directly or by monitoring tyre temperature is left to the approval authority.

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