Tyre pressure monitoring system

Tyre pressure monitoring systems (TPMS) measure the tyre pressure or record changes in pressure over time. The driver is presented with this information on the instrument panel. A distinction is made between direct and indirect TPMS.

Environmental protection

Maintaining the proper inflation pressure enables a tyre to attain optimum/maximum performance. The best possible/low fuel consumption is also achieved as a result. And CO2 emissions are reduced to a minimum.

Function

Tyre pressure monitoring systems (TPMS) measure the tyre pressure or record changes in pressure over time. The driver is presented with this information. Since 1 November 2012 all newly registered class M1 vehicles (cars and mobile homes) have had to be fitted with a TPMS – as set down by the regulation (EC) No. 661/2009 (Art. 9).

The system displays the current tyre pressure values for the driver directly on the instrument panel. It can also indicate which tyre is defective. Tyre pressure monitoring systems can show differences in pressure of min. 0.1 bar. The system can however only function properly if

- All wheels are fitted with pressure sensors
- All tyres have been inflated to the specified pressure
- The system has been initialised

Tyre pressure monitoring systems

There are two different types of system currently on the market for monitoring vehicle tyre pressure: Indirect TPMS and direct TPMS.

Indirect TPMS

Indirect systems calculate the tyre pressure by monitoring the individual wheel speeds and other

signals. If the pressure drops, the driver receives a visual or acoustic warning.

Direct TPMS

A direct TPMS is a highly efficient system which constantly measures the pressure and temperature of the tyres. It warns the driver of a drop in or loss of tyre pressure. This system comprises the following components:

- Sensors in the tyre
- Control unit
- Display in instrument panel

Sensors installed in each individual tyre measure the exact tyre pressure and the temperature of the sensor. This information is wirelessly transmitted directly to the TPMS control unit (receiver). All the signals received (pressure, temperature) are initially evaluated by the TPMS control unit and transferred by CAN bus to the instrument. In Europe the frequency is 433 MHz (315 MHz in North America).

Sensor diagnosis can be performed using special diagnostic tools and the sensors on many vehicles can be replaced by so-called universal sensors, from Schrader (EZ) or Alligator (Sens.it) for example, if repairs are necessary.

Purpose of tyre pressure monitoring

TPMS are designed to help reduce harmful CO2 emissions and increase road safety. Motorists can also save money, as driving with too low a tyre pressure increases fuel consumption and shortens the service life of the tyres.

Safety

Tyre pressure monitoring systems make a significant contribution to safety, as they guard against critical tyre pressures and ensure optimal vehicle handling.

What is TPMS?

Tyre pressure monitoring systems, or TPMS for short, measure the tire pressure or record its change over time. The system displays this information to the driver on the instrument panel. A distinction is made between direct and indirect measuring systems.

Bilder

Hersteller

HELLA

Herth+Buss

Bosch

Magneti Marelli_EN

Continental

Quelle:
http://www.my-cardictionary.comhttps://www.my-cardictionary.com/cardictionary/electric/products/tyre-pressure-monitoring-system.html