

Tyre Pressure Monitoring Systems (TPMS)

A tyre's inflation pressure is the largest single factor in determining how it will perform. It influences the tyre's speed capability, its load carrying capacity, response in handling, cornering power, its service life and above all its safety. Under inflation also causes increased fuel consumption and if prolonged and significant can cause structural damage, especially to low profile tyres.

TPMS is a system fitted on a vehicle that is able to evaluate the inflation pressure of the tyres or the variation of the inflation pressure over time and to transmit corresponding information to the user while the vehicle is running.

TPMS does not allow the motorist to ignore routine tyre condition and pressure checks

In the past TPMS was offered as optional equipment on some vehicles. From November 2014 all new cars and light commercial vehicles sold in the UK must have TPMS. TPMS systems, when fitted, will be checked at MOT test. Incorrect function is a reason for test failure.

There are two types of tyre pressure monitoring systems. The direct system uses radio sensors mounted inside each of a vehicle's tyres to measure the inflation pressure. If deflation occurs, this is communicated to the Electronic Control Unit (ECU) and the driver is quickly alerted by a dashboard-mounted display. The indirect system uses the Anti-lock Braking System (ABS) sensors to measure and compare the rotational speeds of the tyres. The ECU analyses this data to deduce tyre under inflation and alerts the driver by a dashboard warning light.

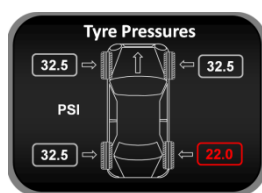


Illustration of a direct TPMS dashboard display

(Actual displays will vary from these illustrations)



Illustration of an indirect TPMS dashboard display

Direct systems are quicker and more sensitive in detecting under inflation than indirect systems that typically only react to a 20% to 30% loss of tyre inflation.

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Issued: 08/06/2012 Reviewed: 10/03/2015

Direct systems may require replacement or maintenance of sensors due to damage or sensor battery failure. Indirect systems do not normally require maintenance. However, it is necessary to recalibrate an indirect system every time a tyre is changed. Always follow the instructions in the owner's handbook.

Verification of the TPMS system will form part of the MOT test for vehicles first entering service from 1st January 2012. However, as the UK MOT test only applies to vehicles of 3 years and older, the effect of this will only be seen from 2015. An exception to this is that from 1st January 2013 all taxis fitted with TPMS will be subject to a verification of the system function as part of the MOT test.

Although TPMS is a very useful safety feature, it should not be seen as a replacement for regular tyre checks. It is essential to test the pressure with an accurate gauge every month, checking the tyre sidewall for damage and making sure that the tread is not excessively or abnormally worn.

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