TECHNICAL REFERENCE
Released by Snap-on Tools
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TPMS1 and Tire Pressure Monitoring Systems

TPMS1 is a radio frequency (RF) based tire pressure monitoring system (TPMS) tool. It communicates to the TPMS sensors using an encoded RF signal and detects RF transmissions from the sensor using onboard RF receivers. This gives TPMS1 users the capability to diagnose nearly every TPMS sensor on the market. "Diagnose" meaning determining if the sensors are working correctly.

Note that RF based TPMS tools do not communicate directly to the electronic control unit or electronic control module (ECU/ECM)[1] on the vehicle. This requires a scan tool like the MODIS with the appropriate software and an OBD-II cable.

The TPMS1 with the most current software (ver. 2.2.4) will diagnose sensors on nearly every (U.S., European and Asian) vehicle sold in the North America, through model year 2009, with factory installed TPM systems.

RF based TPMS tools that have display screens are "menu driven," meaning users select the vehicle model year before activating the sensor. The TPMS1 does not have a display screen and is "sensor driven". The benefits are that the tool has fewer components to potentially break or fail and there is no downtime for software updates transitioning from one model year to the next. In fact, the TPMS1 can already trigger sensors on 2010 model year vehicles.

The TPMS1 also allows users to relearn (a.k.a. retrain, reprogram, reset) the TPM system on most American and European vehicles. It will not, nor will any other RF based TPMS tool, relearn most Asian branded vehicles. On most models, the Asian OE manufacturers designed their relearn procedures to require an OBD-II compliant scan tool that will communicate directly with the TPMS ECU/ECM. This is because, as part of their relearn procedure, Asian OEMs require the TPMS sensor ID numbers be manually registered to the ECU/ECM. This system design is to try to compel drivers back to the Asian dealership for TPMS related services.

There are two exceptions to the "Asian" relearn rule. First, some Honda/Acura vehicles are "self-learning," meaning that no TPMS tool is required at all. Simply driving the vehicle for a few minutes at a minimum of 15 mpg will relearn the ECU/ECM on the vehicle. Contact Snap-on's TPMS1 Support Line at (866) 498-7671 for a list of all self-learning vehicles.

The second exception is Nissan vehicles. In order to provide technicians with a full compliment of TPMS solutions, Snap-on offers the inexpensive Nissan Reset Tool (KTT71985). This tool allows technicians to reset TPMS systems on 2003 and newer Nissan vehicles after a tire/wheel replacement, rotation or repair without the use of a costly scan tool. Note that this tool is not an OBD-II device and does not read diagnostic trouble codes, but simply extinguishes the TPMS light on the instrument panel through a "back door" relearn procedure. It will not relearn the vehicle is if a new TPMS sensor has been installed.

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[1] Although each OEM has their own unique name for the TPMS control modules, they are sometimes referred to generically as the electronic control unit (ECU) or electronic control module (ECM).