CHAPTER 04
Tire-Pressure Monitoring Systems

FIGURE 4.1 The tire-pressure placard (sticker) on the driver’s side door or door jamb indicates the specified tire pressure.

FIGURE 4.2 Inflation pressure increases as the temperature increases. When checking or correcting inflation pressure when the tires are hot, add 2 to 4 PSI to the placard cold inflation pressure.
FIGURE 4.3 A tire with low inflation will have a shorter distance (radius) between the center of the wheel and the road and will therefore rotate faster than a tire that is properly inflated.

FIGURE 4.4 The speeds of the diagonally opposed wheels are added together and then compared to the other two wheels to check if one tire is rotating faster.

FIGURE 4.5 The indirect tire-pressure monitoring system has a reset switch that should be depressed after rotating or replacing tires.
FIGURE 4.6 A clear plastic valve-stem tire-pressure monitoring sensor, showing the round battery on the right and the electronic sensor and transistor circuits on the left.

FIGURE 4.7 A conventional valve stem is on the right compared with a rubber TPMS sensor stem on the left. Notice the tapered and larger brass stem.

FIGURE 4.8 The parts of a typical clamp-in TPMS sensor. Notice the small hole used to monitor the inflation pressure. The use of stop leak can easily clog this small hole.
FIGURE 4.9 The three types of TPMS sensors most commonly found include the two stem-mounted rubber (snap-in) and aluminum (clamp-in), left and top, and the banded sensors (right).

FIGURE 4.10 Some vehicles display the actual measured tire pressure for each tire on a driver information display.

FIGURE 4.11 The TPMS warning lamp on this vehicle is a separate light from the tire icon light that warns of low tire pressure. In this case, both warning lights were on all of the time.
FIGURE 4.12 The codes set were for low pressure and sensor signal failure.

FIGURE 4.13 A typical tire-pressure monitoring system tester.

FIGURE 4.14 A tire-pressure warning light can vary depending on the vehicle, but includes a tire symbol.
FIGURE 4.15 A magnet is placed around the valve stem to reprogram some stem-mounted tire-pressure sensors.

FIGURE 4.16 When replacing a TPMS sensor, be sure to record the sensor ID because this needs to be entered into the system through the use of a tester or scan tool.

FIGURE 4.17 The sensor relearn procedure is performed in the following order after the system has been placed in learn mode: LF, RF, RR, and then LR.
FIGURE 4.18 Always use an accurate, known-good tire-pressure gauge. Digital gauges are usually more accurate than mechanical gauges.

FIGURE 4.19 A clicker-type valve core tool ensures that the valve core is tightened to factory specifications.

FIGURE 4.20 An assortment of service parts that include all of the parts needed to service a stem-mounted TPMS sensor being installed after removal for a tire replacement or repair.