



2 GET EDUCATED

SALES AND TECHNICIAN TRAINING

- Free educational resources: printable training materials, videos, customer talking points and more! Visit TPMSAcademy.com
- Online e-Training course: learn the fundamentals of TPMS in an online module-based format
- Sign up for the Schrader Connect newsletter: Visit SchraderTPMS.com – click on ‘Contact’
- In-person training



3 START TURNING A PROFIT

MENU OF SERVICES	
OIL CHANGE	\$19. ⁹⁹
ALIGNMENT	\$49. ⁹⁹
TIRE ROTATION	\$29. ⁹⁹
TPMS 	

- Incorporate a standard operating procedure in your shop
- Always “test before you touch”
- Actively communicate the benefits of a functioning TPMS system to the customer
- Charge for relearns
- Use Schrader’s EZ-sensor® family of products for quick vehicle turns
- Replace the serviceable components of a TPMS sensor every time a tire is removed from the wheel
- Be creative! Consider including service packs with the sale of road hazard protection

TECHNICAL SUPPORT

1.800.288.1804

Mon - Fri 8am - 8pm
Sat 10am - 2pm EST
www.SchraderTPMS.com

SCHRADER TPMS GLOSSARY OF TERMS

ABS - Anti-Lock Braking System

ADJUSTABLE VALVE STEM ANGLE - Valve stem angle can vary, it is not fixed

ALM - Auto Locating Module

ANTENNA - Component of sensor that receives the Low-Frequency activation

ASK - Amplitude Shift Keying

BAND - Metal band that secures the TPMS to the rim

BANDED SENSOR - TPMS sensor that is strapped to the rim via a band cradle and CPA clip.

BELLY BAND - Portion of the valve that prevents the snap-in tubeless tire valve from being pushed back through the valve hole.

BULB - The round portion of the valve that prevents the snap-in tubeless tire valve from being pulled through the valve hole.

CHROME PLATED PLASTIC CAP - Valve cap is made from plastic and plated in chrome. This type of valve should not be used on an aluminum stem.

CLAMP-IN SENSOR - TPMS sensor identified by a large aluminum hex nut on the outside of the valve stem. Clamp-in sensors are installed by piecing together the valve stem and the sensor with a hex bolt.

CPA CLIP - Plastic clip that secures the TPMS to the cradle

DIAGNOSTIC TROUBLE CODE (DTC) - Code that signifies vehicle’s specific TPMS issue

DPRS - Diagnostic Performance Requirement Specification

DRIVER INFORMATION CENTER (DIC) - Appears on display to show driver the individual pressure of each tire

DUST CAP - Valve cap that does not have a seal

ELECTRONIC CONTROL UNIT (ECU) - Device that decodes the TPMS data and then converts the data into information that can be used by the vehicle systems

FSK - Frequency Shift Keying

FULLY PROGRAMMABLE SENSOR - Blank sensor that can be programmed to any vehicle MMY instead of IDs and protocols

GALVANIC CORROSION - Corrosion caused by two dissimilar conducting materials in contact with each other electrically and exposed to an electrolyte

GROMMET - Part of TPMS service kit that accommodates rim tolerances and secures axial sealing

HEX BOLT - Attaches the valve stem to the sensor

HI-LINE - Vehicle displays “Pressure by Location”

INCH POUNDS - Unit of measure in relationship to torque

INITIATORS - Triggering device to activate the sensor

LF - Low Frequency

LIKE FOR LIKE - Term used by Schrader to describe their direct TPMS replacement program

LOW-LINE - Vehicle displays only the MIL (Malfunction Indicator Lamp)

MALFUNCTION INDICATOR LAMP (MIL) - Light that appears on the dashboard to warn that the TPMS is not operational and therefore, the tire pressure is not being monitored

MMY - Make, Model, Year

MOUNTING SCREW - Used to attach the valve to the enclosure

MULTI-PROTOCOL SENSOR - Sensors that are loaded with multiple protocols

NATIONAL HIGHWAYS AND TRANSPORTATION SAFETY AGENCY (NHTSA) - Body responsible for defining a TPMS warning strategy in response to the TREAD Act

NEWTON METERS - Unit of measure in relationship to torque

OE - Original Equipment

OEM - Original Equipment Manufacturer

OES - Original Equipment Supplier

ONBOARD DIAGNOSTIC CONNECTION (OBD II) - Vehicle data port for connection with a TPMS diagnostic tool.

ON OFF KEY (OOK) - Modulation for Radio Frequency

ONE PIECE SENSOR - When the valve stem or enclosure is damaged, the entire sensor must be replaced.

OVERTORQUING - Occurs when hex bolt is too tight

“PING” - “Pinging” a sensor happens when a tool is used to wake up the sensor. When a sensor is “pinged” it starts to transmit.

PLACARD PRESSURE - OEM specified tire pressure

POTTING - The protective material that encapsulates the electronic portion of the sensor

PRESSURE BY LOCATION - Vehicle will display each tire’s pressure on the dashboard.

PROTOCOL - The specific configuration of a signal that a TPMS sensor transmits to a receiver

PWM - Pulse-Width Modulation

RF - Radio Frequency

RCA - Root Cause Analysis

RCDLR - Remote Control Door Lock Receiver

RECEIVER - Component on vehicle that receives the TPMS sensor transmission

RELEARN PROCEDURE - Process by which the TPMS sensors on a vehicle are learned to the vehicle’s ECU or TCU. There are three types of relearn procedures:

1. **Auto-Relearn** - Sensors are learned automatically to the vehicle’s ECU, usually by driving the vehicle at a specified speed continuously for a specified amount of time.
2. **Stationary Relearn** - Sensors are relearned to the vehicle via RF signal that is broadcasted from each sensor after the vehicle has been put into relearn mode.
3. **OBD Relearn** - Sensors are read by a TPMS scan tool with OBD II capability.

Depending on which type of relearn is required the use of a TPMS scan tool or program tool may be necessary.

RSSI - Received Signal Strength Indication

SCAN TOOL - Tool used to scan, read, activate and diagnose TPMS sensors. Certain tools are also capable of connecting to the ECU via the OBD connector to read sensor IDs, write new sensor IDs and diagnose DTCs.

SDD - Standard Diagnostic Data

SEALING VALVE CAP - Valve cap that has a seal to prevent air loss

SEL - Schrader Electronics Limited

SENSOR ID - The identification number assigned to a TPMS sensor that is unique to that sensor only. The ID is stored in the vehicle’s ECU and identifies a specific sensor at its specific wheel location.

SERVICE PACK - Replacement TPMS components containing: valve, hex nut, grommet valve core and valve cap required for sensor installation. Service pack components should be replaced at each tire change.

SHEAR COLLAR - Limits the torque of the valve assembly to prevent damage to the plastic housing caused by over-tightening

SITS - Schrader Issue Tracking System

SNAP-IN SENSOR - TPMS sensor with a rubber valve stem. The snap-in sensor valve is installed to the wheel by being pulled through rim hole.

STEEL CAP - Valve cap is made of steel and can damage the aluminum valve stem because of dissimilar metals

TBYT - Test Before You Touch

TCU - TPMS Control Unit. Component that receives and interprets the signals broadcasted by TPMS sensors and then relays the signal to the ECU

TORQUE SETTING - Amount of tightened pressure used when screwing in hex bolt

TORQUE TOOL - Tool used to achieve the correct amount of pressure when attaching valve stem to sensor with a hex bolt

TWO PIECE SENSOR - Valve stem or enclosure and sensor are separate and can be replaced interchangeably

TPM - Tire Pressure Monitoring

TPMS - Tire Pressure Monitoring System

TREAD - Transportation Recall Enhancement, Accountability and Documentation - Safety Act in USA

TRANSPONDER / INITIATOR - A component on some TPMS systems that is normally located inside the wheel and broadcasts an LF signal to activate the sensor. Transponders identify specific sensors to a tire location.

TRIGGER TOOL - Tool that is used to activate TPMS sensors

UHF - Ultra High Frequency

UNIVERSAL CRADLE - Aftermarket solution that can be banded to a rim to secure a clamp-in sensor or a banded sensor

VALVE CORE - Spring loaded valve installed in the valve stem that lets air in and keeps the valve stem from leaking out. The valve core threads into the tire valve stem. To avoid galvanic corrosion in aluminum TPMS valve stems, a special nickel-plated valve core is required.

VALVE STEM - Metal/ rubber tube that provides a means for air passage in and out of a tire. The valve stem is internally threaded to accommodate the installation of a valve core and externally threaded to accommodate the installation of a sealing cap. For Direct TPMS equipped vehicles where the sensor is mounted in the rim hole, the valve stem is a component of the TPMS sensor.

VIO - Vehicles In Operation

WAL - Wireless Auto Location

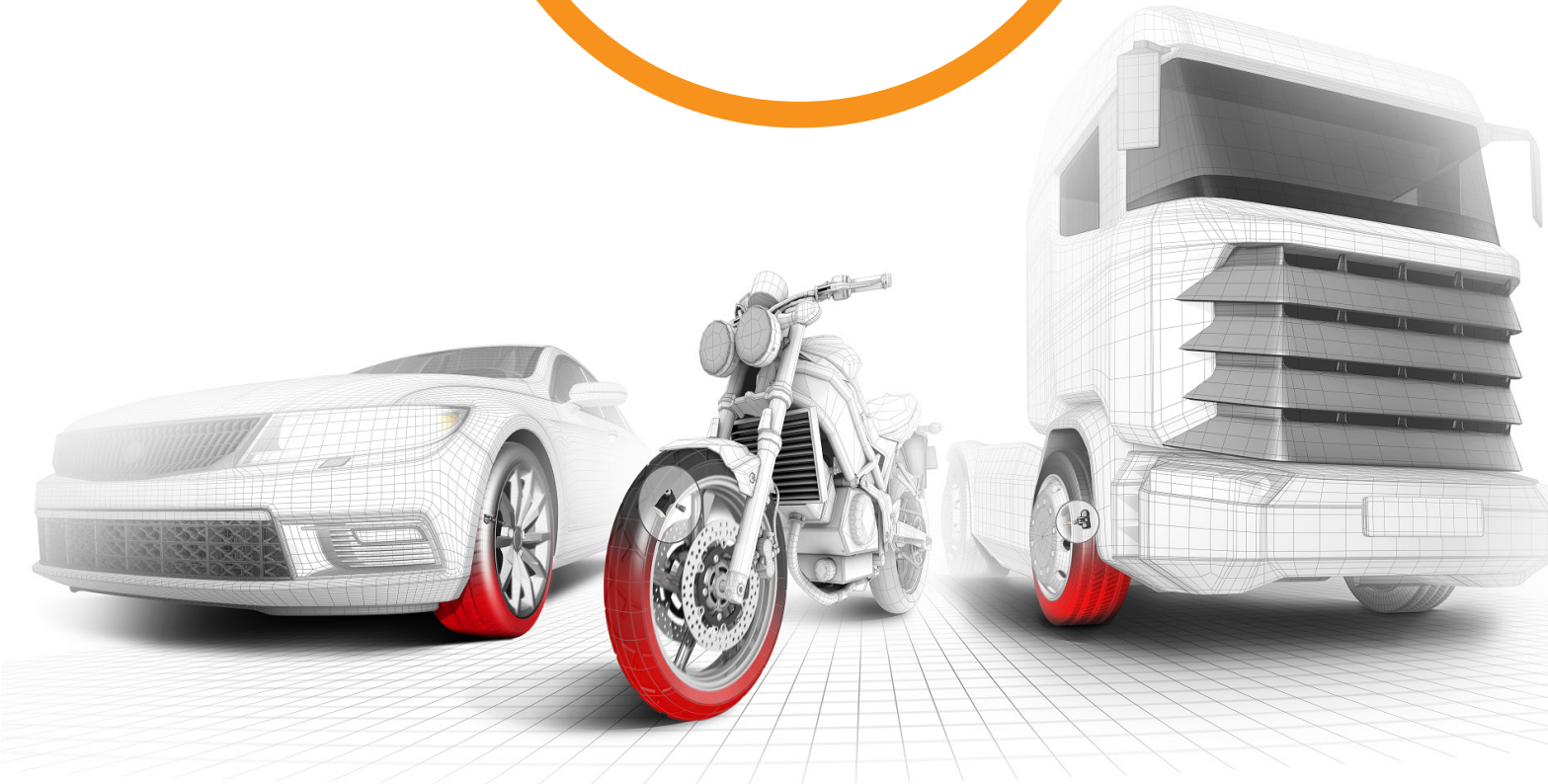
WASHER - Shapes the grommet to help seal the valve hole

WCM - Wireless Control Module

WHEEL UNIT (WU) - The device that is mounted in the wheel assembly that senses the tire pressure and then sends the information via RF to the vehicle receiver

SCHRADER TPMS PLAYBOOK

A Step-by-Step Guide from the World Leader in TPMS



WHY SCHRADER?

Schrader is the leading global manufacturer of tire pressure monitoring systems (TPMS) for automotive, heavy-duty and off-road vehicles. Schrader is a pioneer in TPMS, a vehicle safety feature that is now standard on all cars and light trucks sold in the U.S.



OE MANUFACTURER

- First to market with new coverage
- Defect allotment of 4 parts per million
- Extensive testing to guarantee quality



GLOBAL MARKET-LEADER

- Over 250 dedicated engineers
- Over 750 million sensors sold
- Frost & Sullivan award winning



TPMS PARTNER OF CHOICE

- TIA certified team
- Training and marketing support
- Partners with leading TPMS tool manufacturers

More than just a supplier,
we are a TPMS partner!

We are dedicated to your success in TPMS. Schrader offers marketing programs, training, online educational resources, technical support and products that can help your business to profit from TPMS. With this step-by-step resource, a reliable, profit-building TPMS program is only three steps away!

- 1 GET EQUIPPED**
- 2 GET EDUCATED**
- 3 START TURNING A PROFIT!**



1 GET EQUIPPED



33500
Rubber Snap-In



33700
Adjustable Angle
Aluminum Clamp-In



33900
90° Aluminum
Clamp-In

STOCK EZ-SENSOR®:

- Covers 314.9 MHz and 433 MHz applications
- 3 unique mechanical packages for specialty rim fitment
- Adaptable technology supports additional coverage
- Meets OE quality specifications and replicates diverse OE functionality
- 98% vehicle coverage
- Compatible with most market-leading TPMS tools

SINGLE SKU CHANGES EVERYTHING:

- Optimizes inventory levels
- Eliminates potential lost sales
- Reduces overall cost of service
- Improves inventory returns

SERVICE PACKS

Service pack components are intended for one time use only. Schrader recommends replacing these critical sealing components at each tire change using a genuine OEM validated Schrader TPMS service pack.



GALVANIC CORROSION
Occurs when two dissimilar metals react to each other and cause a deterioration effect. Corrosion in any component prevents accurate assembly during installation.



SCHRADER TPMS HAND TOOLS

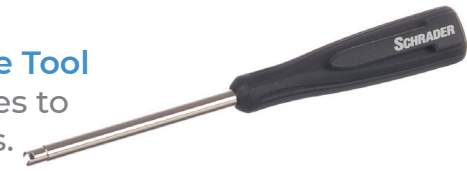
20140
T-10 Torque Tool
Pre-set torque tool for installing replacement snap-in valves.



20142
Universal Nut Torque Tool
Serves as a torque wrench for valve nuts.



20141
Valve Core Torque Tool
Tighten valve cores to OE specifications.



20145
T-20 Torque Tool
Pre-set torque tool for installing aluminum valve stems to the sensor body.



TPMS PROGRAMMING TOOLS

					 Matco: MD56 NAPA: 92-1551 TechSmart: TS6000
 TPMS4	 TPMS3	 MAXIMUS TPMS 2.0	 TPA 300	 OTC3838	 ET3838
 TPMS-D	 TPMS-SE				
					 Injectoclean: CJ36 K-Tool: KTITPMSTOOL Monster: MSTTPMSTOOL Myers: MST360
					 NAPA: 92-1531 TechSmart: TS5001