

## 2 GET EDUCATED

### SALES AND TECHNICIAN TRAINING

- Free educational resources: printable training materials, videos, customer talking points and more! Visit [TPMSAcademy.com](http://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](http://SchraderTPMS.com) – click on ‘Contact’
- In-person training



## 3 START TURNING A PROFIT

- 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

MENU OF SERVICES	
OIL CHANGE	\$19. <sup>99</sup>
ALIGNMENT	\$49. <sup>99</sup>
TIRE ROTATION	\$29. <sup>99</sup>
TPMS (!)	

TECHNICAL SUPPORT  
1.800.288.1804

Mon - Fri 8am - 8pm  
Sat 10am - 2pm EST  
[www.SchraderTPMS.com](http://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!

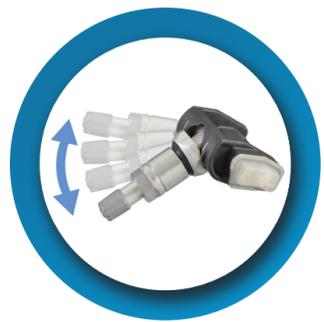
- 1 GET EQUIPPED**
- 2 GET EDUCATED**
- 3 START TURNING A PROFIT!**



# 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.

# EZ-sensor

# 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

		<p>EZ-sensor® PAD</p>	<p>S-56</p>	<p>S-46</p>	<p>S-41</p>			
<p>TPMS4</p>	<p>TPMS3</p>	<p>MAXIMUS TPMS 2.0</p>	<p>TPA 300</p>	<p>OTC3838</p>	<p>ET3838</p>	<p>VT56 Matco: MD56 NAPA: 92-1551 TechSmart: T56000</p>		
<p>46 SERIES K-Tool: KITTPMSPRO Matco: MDMAXTPMS NAPA: 92-1541 Monster: MSTTPMSPRO Myers: Myers VT46 TechSmart: T46000</p>	<p>VT36 Injectoclean: CJ36 K-Tool: KITTPMSTOOL Monster: MSTTPMSTOOL Myers: MST360</p>	<p>VT55 NAPA: 92-1531 TechSmart: T55001</p>						
<p>TPMS-D</p>	<p>TPMS-SE</p>	<p>TECH1000</p>	<p>TECH500</p>	<p>TECH400PRO</p>	<p>TECH300PRO</p>	<p>TECH400SD</p>		