



# Motorcraft

## TPMS FAQ

### QUICK REFERENCE: TPMS Q&A

**Q: How does TPMS work?**

**A:** A vehicle's TPMS continuously monitors tire pressure through sensors located in the tires (called a Direct System) or through the ABS sensors to measure wheel speed (called the Indirect System). The low tire pressure warning lamp illuminates when a tire pressure is low. If the lamp flashes then the system needs to be tested.

**Q: What's the TPMS warning lamp look like?**

**A:** There are two different style icons approved by the TREAD Act as low tire pressure warning indicators. Ford and Lincoln Mercury vehicles use an image of a cross-section of a tire with an exclamation mark inside.

(Some OE designs employ the alternate icon; an image of a top-down view of a vehicle showing all four tires.)



**Q: Can low tire pressure be easily detected visually?**

**A:** Under-inflated tires are hard to detect with the eye. Consequently, tires should be inspected and checked monthly with an accurate tire gauge. Note: TPM systems are not designed to be a substitute for regular tire maintenance. Drivers should be encouraged to review their Owner Guide for additional information on tire care and TPMS.

**Q: What's it mean if the TPMS warning lamp comes on?**

**A:** When the TPMS warning Lamp on the instrument panel illuminates it means the system has detected at least one tire with pressure that is low. All the tires should be inspected and the tire pressures adjusted as soon as possible. The lamp will go out after the tires are properly inflated and the vehicle is driven two minutes over 20 mph (33 kph).

**Q: What's it mean if the warning lamp goes on and off?**

**A:** The warning lamp may illuminate for a short period of time and then go out on cold mornings. This is generally caused by marginally low tire pressure that drops below the minimum tire pressure overnight. As the vehicle is driven the air in the tire heats up and expands causing the tire pressure to rise above the minimum level. This causes the warning lamp to turn off.

(Note: Every 10 degree drop in ambient air temperature results in a one psi drop in tire pressure).

The tire pressure needs to be inspected when the tires are cold. The tire pressure needs to be adjusted according to the pressures indicated on the tire label on the driver's door jamb.

**Q: What's it mean if the warning lamp flashes on and off and then stays lit?**

**A:** TPMS is designed to warn the driver when the system is not working properly. A system malfunction is indicated by a flashing of the TPMS warning lamp for 60 to 90 seconds. The warning lamp will stay lit after the flashing ends. This sequence repeats every time the vehicle is started until the concern is corrected. (Note: Prior to September 2007, the Ford system would flash and then go OFF to signal a fault.)

**Q: Why is proper tire inflation important?**

**A:** Proper tire inflation is important for safe vehicle operation. Vehicles with properly inflated tires exhibit the optimum in ride and handling characteristics, tire life, as well as fuel economy.

**Q: Why does tire pressure change?**

**A:** Tire pressure drops about one psi for every 10 degree F drop in ambient temperature. In addition, tires lose as much as 1.5 psi per month as air escapes naturally from the porosity of the tire and rim. (For those interested in the science behind this, it's  $PV=nRT$ .)

**Q: What is the TREAD Act?**

**A:** The TREAD Act is a law administered by the National Highway Traffic Safety Administration that requires that all passenger cars, light trucks, and vans (Gross weight less than 10,000 pounds) be equipped with TPMS starting in model year 2008 (specifically September 1, 2007). Incomplete vehicles under 10,000 GVW have until September 1, 2008. The program was phased-in starting in the 2006 model year.

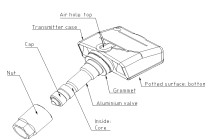
**Q: Can other aftermarket devices affect the TPMS system?**

**A:** Some aftermarket devices can cause radio frequency interference that will block the TPMS sensor signal causing an intermittent concern. This can cause the TPMS lamp to illuminate. Some of the more common items are: cell phone chargers, GPS power supplies, or any other aftermarket electronic device. Unplugging the aftermarket devices can help determine if they are the cause of an intermittent concern.

# Sensor Training With the New Valve Mounted TPMS Sensor



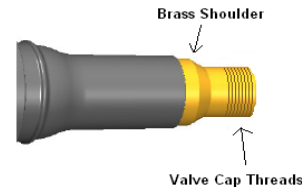
Bolt-on Valve Mounted



Rim Mounted



New Valve Mounted



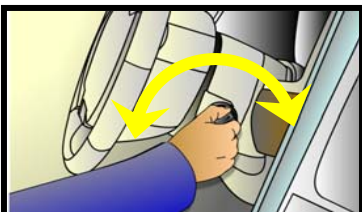
When new sensors are mounted, they must be re-trained. Tool #204-363 must be used for all sensors. Bolt-on valve mounted sensors no longer uses the magnet type tool.

**NOTE:** Sensors are shipped in OFF mode. To turn ON, mount the sensor and inflate tire. Wait at least two 2 minutes, then begin sensor training.

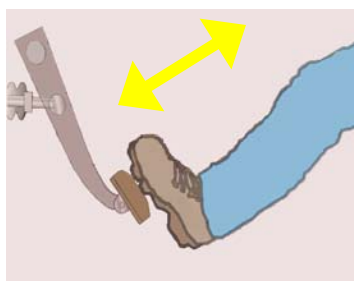
The new valve mounted sensor can be recognized by the exposed brass shoulder just below the valve cap threads.

Before starting, move the vehicle away from RF noises (motors, cell phones, etc.), at least 1m (3ft) from other TPMS equipped vehicles

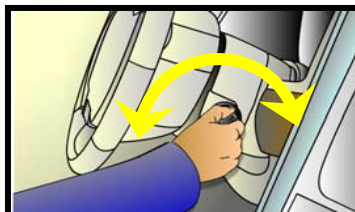
1



2



3



4



**Steps 1 thru 3 need to be performed within 1 minute**

Begin with the Ignition switch in the OFF position. Cycle ignition switch 3 times from OFF to RUN ending in RUN.

Press and release the brake pedal.

Turn the Ignition switch to the OFF position. Cycle ignition switch 3 times from OFF to RUN ending in RUN.

The horn will sound once and the TPMS indicator will flash if training Mode has been entered successfully. If equipped, the message center will display "TRAIN LFTIRE".

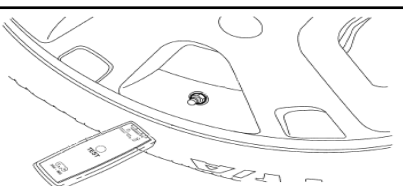
## Rim Mounted

## Valve Stem Mounted Sensors

5

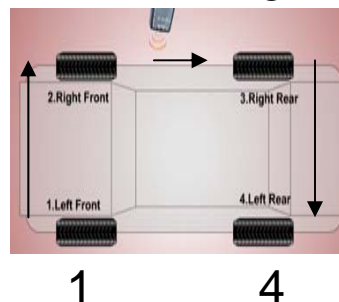


For rim mounted sensors place the tool against the side wall 180 deg from the valve stem beginning with the LF tire.



For valve stem mounted sensors, the tool is placed against the side wall at the valve stem as shown.

6



The horn will sound when the sensor is trained. Repeat step 5 for each wheel in the order shown. The horn will sound after each sensor is trained to the vehicle. **Do not wait more than 2 minutes between each sensor or the system will time out and sound the horn twice.**

7



Training is complete after the horn sounds for the last tire (LR). If equipped, the message center will display "Tire Training Complete". **Turn Ignition to OFF position. If the horn sounds twice, then training was not successful.**