

# Wheels and Tires

## TIRE PRESSURE MONITORING SYSTEM

### WARNING



The tire pressure monitoring system is not a substitute for manually checking tire pressure. The tire pressure should be checked periodically (at least monthly) using a tire gauge, see *Inflating your tires* in this chapter. Failure to properly maintain your tire pressure could increase the risk of tire failure, loss of control, vehicle rollover and personal injury.



Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

The tire pressure monitoring system complies with part 15 of the FCC rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

# Wheels and Tires

## Changing Tires With a Tire Pressure Monitoring System



E142549

**Note:** Each road tire is equipped with a tire pressure sensor located inside the wheel and tire assembly cavity. The pressure sensor is attached to the valve stem. The pressure sensor is covered by the tire and is not visible unless the tire is removed. Take care when changing the tire to avoid damaging the sensor

You should always have your tires serviced by an authorized dealer.

Check the tire pressure periodically (at least monthly) using an accurate tire gauge. See *Inflating Your Tires* in this chapter.

## Understanding Your Tire Pressure Monitoring System

The tire pressure monitoring system measures pressure in your four road tires and sends the tire pressure readings to your vehicle. The low tire pressure warning light will turn on if the tire pressure is significantly low. Once the light is illuminated, your tires are under-inflated and need to be inflated to the manufacturer's recommended tire pressure. Even if the light turns on and a short time later turns off, your tire pressure still needs to be checked.

### When Your Temporary Spare Tire is Installed

When one of your road tires needs to be replaced with the temporary spare, the system will continue to identify an issue to remind you that the damaged road wheel and tire assembly needs to be repaired and put back on your vehicle.

To restore the full function of the tire pressure monitoring system, have the damaged road wheel and tire assembly repaired and remounted on your vehicle.

### When You Believe Your System is Not Operating Properly

The main function of the tire pressure monitoring system is to warn you when your tires need air. It can also warn you in the event the system is no longer capable of functioning as intended. See the following chart for information concerning your tire pressure monitoring system:

# Wheels and Tires

Low tire pressure warning light	Possible cause	Customer action required
Solid warning light	Tire(s) under-inflated	Make sure tires are at the proper pressure. See Inflating your tires in this chapter. After inflating your tires to the manufacturer's recommended pressure as shown on the Tire Label (located on the edge of driver's door or the B-Pillar), the vehicle must be driven for at least two minutes over 20 mph (32 km/h) before the light turns off.
	Spare tire in use	Repair the damaged road wheel and tire assembly and reinstall it on the vehicle to restore system function. For a description on how the system functions, see <b>When your temporary spare tire is installed</b> in this section.
	Tire pressure monitoring system malfunction	If the tires are properly inflated and the spare tire is not in use but the light remains on, contact your authorized dealer as soon as possible.
	Tire rotation without sensor training	On vehicles with different front and rear tire pressures, the system must be retrained following every tire rotation. See <b>Tire Care</b> (page 329).
Flashing warning light	Spare tire in use	Repair the damaged road wheel and tire assembly and reinstall it on the vehicle to restore system function. For a description on how the system functions, see <b>When your temporary spare tire is installed</b> in this section.
	Tire pressure monitoring system malfunction	If the tires are properly inflated and the spare tire is not in use but the light remains on, contact your authorized dealer as soon as possible.

# Wheels and Tires

---

## When Inflating Your Tires

When putting air into your tires (such as at a gas station or in your garage), the tire pressure monitoring system may not respond immediately to the air added to your tires.

It may take up to two minutes of driving over 20 mph (32 km/h) for the light to turn off after you have filled your tires to the recommended inflation pressure.

## How Temperature Affects Your Tire Pressure

The tire pressure monitoring system monitors tire pressure in each pneumatic tire. While driving in a normal manner, a typical passenger tire inflation pressure may increase about 2 to 4 psi (14 to 28 kPa) from a cold start situation. If the vehicle is stationary overnight with the outside temperature significantly lower than the daytime temperature, the tire pressure may decrease about 3 psi (21 kPa) for a drop of 30°F (17°C) in ambient temperature. This lower pressure value may be detected by the tire pressure monitoring system as being significantly lower than the recommended inflation pressure and activate the system warning light for low tire pressure.

If the low tire pressure warning light is on, visually check each tire to verify that no tire is flat. If one or more tires are flat, repair as necessary. Check the air pressure in the road tires. If any tire is under-inflated, carefully drive the vehicle to the nearest location where air can be added to the tires. Inflate all the tires to the recommended inflation pressure.

## Tire Pressure Monitoring System Reset Procedure

### WARNING



To determine the required pressure(s) for your vehicle, see the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or Tire Label located on the B-Pillar or the edge of the driver's door.

**Note:** You need to perform the tire pressure monitoring system reset procedure after each tire rotation on vehicles that require different recommended tire pressures in the front tires as compared to the rear tires.

### Overview

To provide the vehicle's load carrying capability, some vehicles require different recommended tire pressures in the front tires as compared to the rear tires. The tire pressure monitoring system equipped on these vehicles is designed to illuminate the low tire pressure warning light at two different pressures; one for the front tires and one for the rear tires.

Since tires need to be rotated to provide consistent performance and maximum tire life, the tire pressure monitoring system needs to know when the tires are rotated to determine which set of tires are on the front and which are on the rear. With this information, the system can detect and properly warn of low tire pressures.

System reset tips:

# Wheels and Tires

---

- To reduce the chances of interference from another vehicle, perform the system reset procedure at least three feet (one meter) away from another Ford Motor Company vehicle undergoing the system reset procedure at the same time.
- Do not wait more than two minutes between resetting each tire sensor or the system will time-out and the entire procedure will have to be repeated on all four wheels.
- A double horn will sound indicating the need to repeat the procedure.

## ***Performing the System Reset Procedure***

Read the entire procedure before attempting.

1. Drive the vehicle above 20 mph (32 km/h) for at least two minutes, then park in a safe location where you can easily get to all four tires and have access to an air pump.
2. Place the ignition in the off position and keep the key in the ignition.
3. Cycle the ignition to the on position with the engine off.
4. Turn the hazard flashers on then off three times. You must accomplish this within 10 seconds. If the reset mode has been entered successfully, the horn will sound once, the system indicator will flash and a message is shown in the information display. If this does not occur, please try again starting at Step 2. If after repeated attempts to enter the reset mode, the horn does not sound, the system indicator does not flash and no message is shown in the information display, seek service from your authorized dealer.
5. Train the tire pressure monitoring system sensors in the tires using the following system reset sequence starting with the left front tire in the following clockwise order: Left front (driver's side front tire), Right front (passenger's side front tire), Right rear (passenger's side rear tire), Left rear (driver's side rear tire)
6. Remove the valve cap from the valve stem on the left front tire. Decrease the air pressure until the horn sounds.  
**Note:** The single horn chirp confirms that the sensor identification code has been learned by the module for this position. If a double horn is heard, the reset procedure was unsuccessful, and you must repeat it.
7. Remove the valve cap from the valve stem on the right front tire. Decrease the air pressure until the horn sounds.
8. Remove the valve cap from the valve stem on the right rear tire. Decrease the air pressure until the horn sounds.
9. Remove the valve cap from the valve stem on the left rear tire. Decrease the air pressure until the horn sounds. Training is complete after the horn sounds for the last tire trained (driver's side rear tire), the system indicator stops flashing, and a message is shown in the information display.
10. Turn the ignition off. If two short horn beeps are heard, the reset procedure was unsuccessful and you must repeat it. If after repeating the procedure and two short beeps are heard when the ignition is turned off, seek assistance from your authorized dealer.