# ARTICLE BEGINNING

# DESCRIPTION & OPERATION

## TIRE PRESSURE MONITOR (TPM) SYSTEM

The tire pressure warning system informs the driver if it detects a low tire pressure. When the tire pressure warning system detects low tire pressure in any of the 4 wheels which affects safe driving, the tire pressure warning light comes on.

Tire pressure warning system is controlled by the Brake Actuator Assembly (skid control ECU). When the tire pressure reset switch is pushed, the tire pressure warning light goes off. See **Fig. 1** .

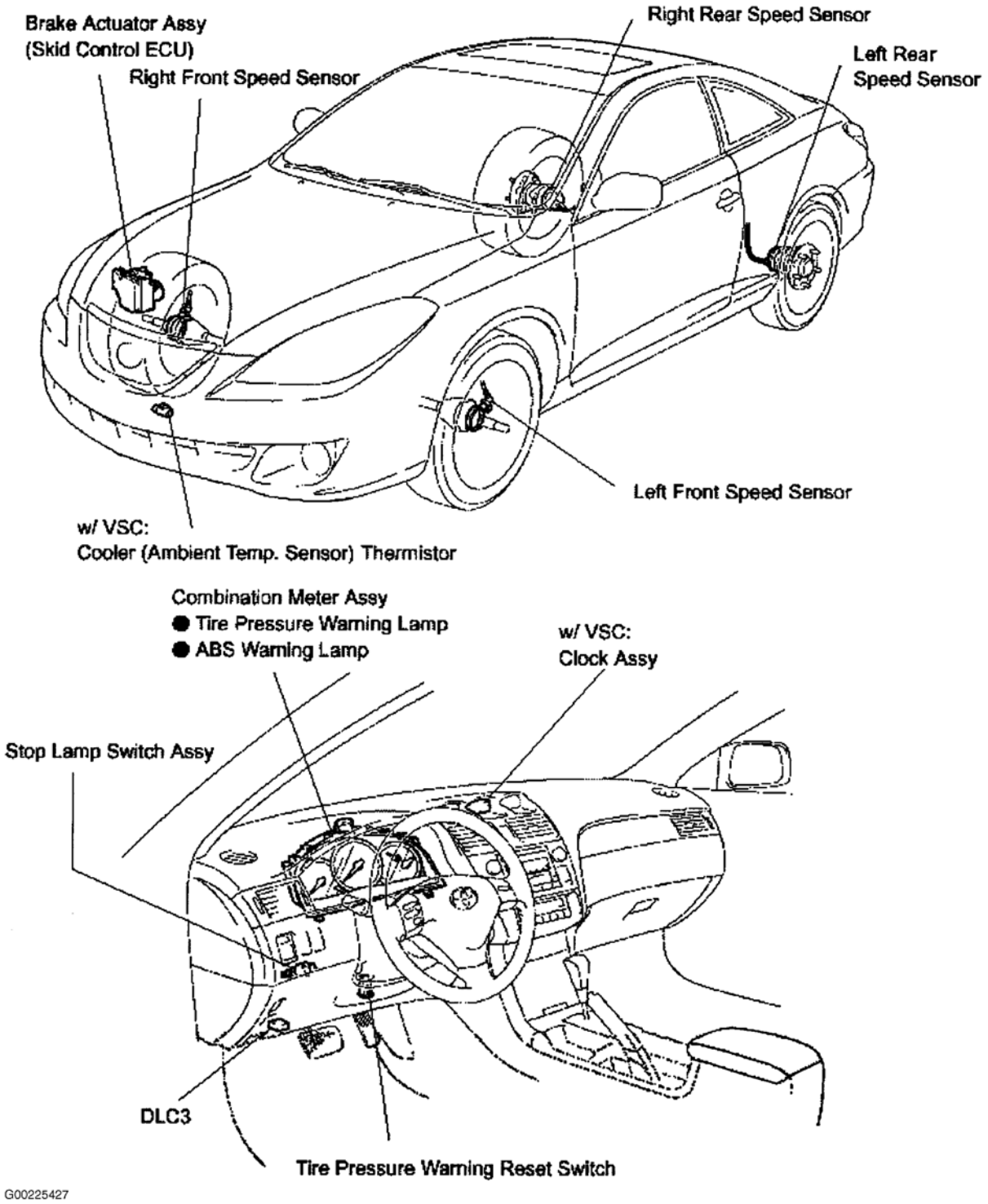


**Fig. 1: Identifying TPM System Components**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## RESET PROCEDURES

**NOTE:** **This system requires initializing after changing tires or wheels, after rotating the tires, or when tire pressure warning light blinks twice every second. Set tire pressure within the specified range before initializing. If the tire air**

**pressure is not within the specified range, tire pressure warning system will not function. See INITIALIZING TIRE PRESSURE MONITOR SYSTEM .**

**NOTE:** **If the negative battery terminal is disconnected, initialize the following systems after the terminal is reconnected: power window and sliding roof. Refer to owner's manual or appropriate manufacturer service information.**

## TIRE PRESSURE MONITOR WARNING LIGHT

When the tire pressure warning light comes on, immediately check the air pressure of all tires. If the tire pressure was normal in all tires, the system needs to be initialized. See **INITIALIZING TIRE PRESSURE MONITOR SYSTEM** . If a tire is flat, repair as necessary. If a tire inflation is low, adjust to the specified pressure. Push tire pressure warning system reset switch for a few seconds, and make sure the warning light goes off.

If the warning light stays on or blinks once every second, there is a malfunction in the TPM system. See appropriate manufacturer service information. If the warning light blinks twice every second, the system needs to be initialized. See **INITIALIZING TIRE PRESSURE MONITOR SYSTEM** .

Under the following conditions, the system may not function properly:

- A compact spare tire, snow tires, or tire chains are used.
- The tire pressure is excessively higher than specified, or tire pressure suddenly drops due to bursting or other causes.
- The vehicle is driven on a slippery road surface such as rough or frozen roads.
- The vehicle speed is 19 MPH (30 KM/H) or less or more than 62 MPH (100 KM/H), and the driving duration is less than 5 minutes.
- The tires differ in tread pattern or manufacturer.
- The tires are not the specified size.
- The tread wear is very different among the installed tires.
- The pressure of 2 or more tires drops at the same time.
- Rapid acceleration/deceleration or sharp turns is continued.
- The loading is over the limit or imbalanced.
- Initialization was not performed correctly after replacing or rotating tires or wheels.
- The outside temperature is below 32°F (0°C) or above 104°F (40°C).

## INITIALIZING TIRE PRESSURE MONITOR SYSTEM

**NOTE:** **This system requires initializing after changing tires or wheels, after rotating the tires, or when tire pressure warning light blinks twice every second. Set tire pressure within the specified range before initializing.**

**CAUTION: DO NOT push the reset switch without adjusting tire inflation pressure. Otherwise, the low tire pressure warning light may not come on even if the tire pressure is low, or it may come on when the tire inflation pressure is actually normal. If you push the reset switch while the vehicle is moving, initialization is not performed.**

1. Set the tire pressure of all wheels to pressure specified on the tire and loading information label.
2. With vehicle stopped and parking brake applied, turn ignition switch to ON position.
3. Press and hold the tire pressure warning reset switch until the tire pressure warning light blinks 3 times at one-second intervals. See **Fig. 1** .

**NOTE:** **If the tire pressure warning light does not blink, turn ignition switch to OFF position and perform the initialization procedure again starting at step 2 . If light still does not blink, there is a problem in the TPM system. See appropriate manufacturer service information.**

4. Drive the vehicle at 19 MPH (30 KM/H) or more to complete the initialization of the skid control ECU (it takes 0.5-1 hour). Vehicle should be driven under the following conditions:
   - The vehicle speed is between 31-62 MPH (50-100 KM/H).
   - The roads are dry, smooth and straight.
   - The number of passengers is 1 or 2 (including driver).

**NOTE:** **If the tire pressure warning light blinks at 0.25 second intervals while the vehicle is being driven, the initialization may have failed. If so, turn ignition switch to OFF position and perform the initialization procedure again starting at step 1 .**

5. After initialization is completed, the skid control ECU monitors the tire pressure by using the wheel speed sensors.
6. To verify the system has been initialized, check the length of time the tire pressure warning light is on after turning the ignition switch to the ON position. Light will stay on for 3 seconds if system is initialized, or 4 seconds if system is not initialized.

## DISMOUNTING/MOUNTING PROCEDURES

**CAUTION:** **The tire should be dismounted from the wheel using the tire changer manufacturer's instructions. Use the following information to avoid damage during the dismounting/mounting procedures.**

**NOTE:** **Installed tires should be of the specified size. They should be of the same size and construction. If tires other than the specified size are used, or if tires of different sizes or constructions are mixed, the tire pressure warning system will not function properly.**

**NOTE:** **This system requires initializing after changing tires or wheels, after rotating the tires, or when tire pressure warning light blinks twice every second. See INITIALIZING TIRE PRESSURE MONITOR SYSTEM under RESET PROCEDURES.**

**NOTE:** **If the negative battery terminal is disconnected, initialize the following systems after the terminal is reconnected: power window and sliding roof. Refer to owner's manual or appropriate manufacturer service information.**

## TORQUE SPECIFICATIONS

**TORQUE SPECIFICATIONS**

| Component | Ft. Lbs. (N.m) |
|---|---|
| Wheel Nut (1) | 76 (103) |

(1) Ensure wheel nuts are still tight after driving 1000 miles (1600 km), especially if wheels are aluminum.