

Special Tools

Description	Part Number	Qty.
DIGITAL TECHNICIAN II	HD-48650	1
TPMS ACTIVATION TOOL	HD-51794	1

Sensors mounted in each tire measure and report tire pressure data to the BCM. The BCM monitors the data and displays each tire pressure both in the Boom! Audio system information screen as well as in the odometer trip display. See **Description and Operation** for more information and diagnostics.

NOTE

- Do not use the TPMS as a pressure gauge when adding or removing air from a tire. Sensor transmissions vary with conditions and may not react immediately when adding or removing air from the tire. Over-inflation or under-inflation can result.
- The TPMS sensor will not communicate pressures above 345–414 kPa (50–60 psi) depending on altitude.
- TPMS has been calibrated to use air in the tire. Use of 100% nitrogen may affect the accuracy of the system.

1. Dismount tire. See Tire Replacement in this section.
2. See **Figure 1**. Remove nut (5).
3. Remove sensor (4) and spring (3) from valve stem.
4. Remove valve stem (1) from wheel. Discard valve stem.

NOTE

- Tire pressure sensors are designed for use with the wheels specified for the motorcycle. Attempting to use sensors on other wheels can result in lack of proper fitment, TPMS malfunction and air leakage.
- Sensors with good batteries can be reused.
- Never install a used valve stem or valve stem nut.
- See **Figure 1**. **New** valve stem (1) has pre-applied threadlocker and includes **new** seal (2).

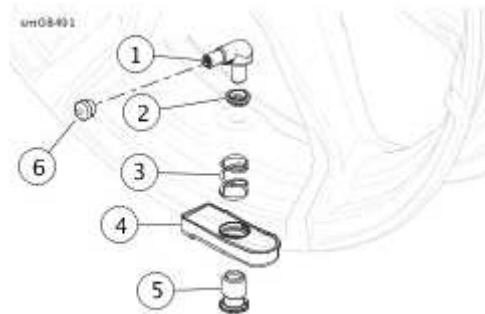
1. Install **new** valve stem/seal assembly in wheel.
 - a. Install sensor and spring with nut (5). Position valve stem to face right side when wheel is installed.
 - b. Align sensor so that it does not touch the wheel.

- c. Do not allow sensor to contact the wheel while tightening. While holding valve stem aligned with wheel, tighten to 6–7 N·m (54–62 **in-lbs**).
 - d. Do not attempt to rotate valve stem once it is installed on wheel.
2. Install the tire. See Tire Replacement in this section.

NOTE

The sensor must be in PARK mode (have been at rest for approximately 7 minutes) to assign to the vehicle. This includes spin balancing or riding the motorcycle.

3. **New sensor:** Before riding motorcycle, assign using **TPMS ACTIVATION TOOL (Part Number:HD-51794)** with **DIGITAL TECHNICIAN II (Part Number:HD-48650)**.
 - a. Connect Digital Technician II to vehicle.
 - b. Go to Toolbox > Vehicle Setup > TPMS > Configure. Select sensor assignment.
 - c. Follow the online instructions to configure system to recognize sensors.



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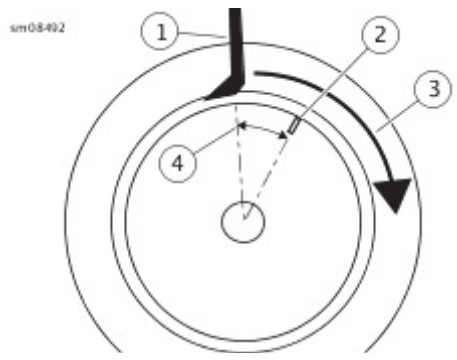
1	Valve stem
2	Seal
3	Spring
4	Sensor
5	Nut
6	Cap

Figure 1. Sensor and Valve Stem

NOTE

- Wheels equipped with tire pressure sensors require special tire mounting and dismounting procedures. Failure to follow these procedures results in damaged sensors.
- Never allow tire machine spoon, tire iron or tire bead to contact sensor. Sensor damage will occur.

1. Break the bead being careful to not damage tire pressure sensor.
2. See **Figure 2**. Engage tire machine spoon (1) 30 degrees (4) from the valve stem (2) in the direction of tire machine rotation (3).
3. While rotating wheel away from the valve stem, remove the first bead.
4. Repeat with remaining bead. Remove tire.
5. Install tire on wheel. Start the first bead opposite from the valve stem.
6. Install first bead.
7. Engage the second bead 30 degrees from the valve stem in the direction of machine rotation.
8. While rotating away from the valve stem, install the second bead.
9. Inflate to the correct pressure. Refer to **Specified Tires**.



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1	Tire machine spoon
2	Valve stem
3	Tire machine rotation
4	30 degrees

Figure 2. Tire Machine Operation

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TPMS ACTIVATION TOOL	HD-51794	1

The Tire Pressure Monitoring System (TPMS) consists of the BCM, IM, radio information screen, and a pressure sensor in each wheel. The BCM receives a RF signal from the sensors on the RF antenna. The pressure sensor measures tire pressure, temperature, and wheel acceleration.

NOTE

The TPMS sensor will not communicate pressures above 345–414 kPa (50–60 psi) depending on altitude. Adjust tires to proper pressure before beginning diagnosis.

See **Figure 1** and **Figure 2**. The BCM converts the RF signal to a CAN signal and it is received by the radio and IM. The radio displays tire pressure on the information screen and the IM displays it on the odometer.

The pressure sensor is powered by a non-replaceable long life battery. The sensor is replaced when the battery is depleted.

The pressure sensor has three modes:

- Test mode:** Prevents data transmission during shipping and storage to maximize battery life.
- Park mode:** The sensor changes from test to park mode after detecting tire pressure of approximately 100 kPa (15 psi) for 4 minutes. The sensor transmits a periodic burst to the BCM approximately every 4 hours. A replacement sensor must be in park mode to be assigned to the BCM using the **TPMS ACTIVATION TOOL (Part Number:HD-51794)** and **DIGITAL TECHNICIAN II (Part Number:HD-48650)**.
- Drive mode:** The sensor changes from park to drive mode after detecting wheel acceleration for approximately 12 seconds. The sensor transmits a periodic burst to the BCM approximately every minute. The sensor reverts to park mode after detecting no wheel acceleration for approximately 7 minutes.

DTC C0083 will accompany all other TPMS DTCs that are set except DTC C0077. Address DTCs according to priority number.

DTC C0077 low tire pressure will result in an informational pop-up screen displayed on the radio once per ignition cycle for each tire that is reported low.

Table 1. Code Description

C0077	Low tire pressure
C0083	TPMS malfunction
C2000	Front TPMS communication fault
C2001	Rear TPMS communication fault
C2003	Front TPMS sensor fault