

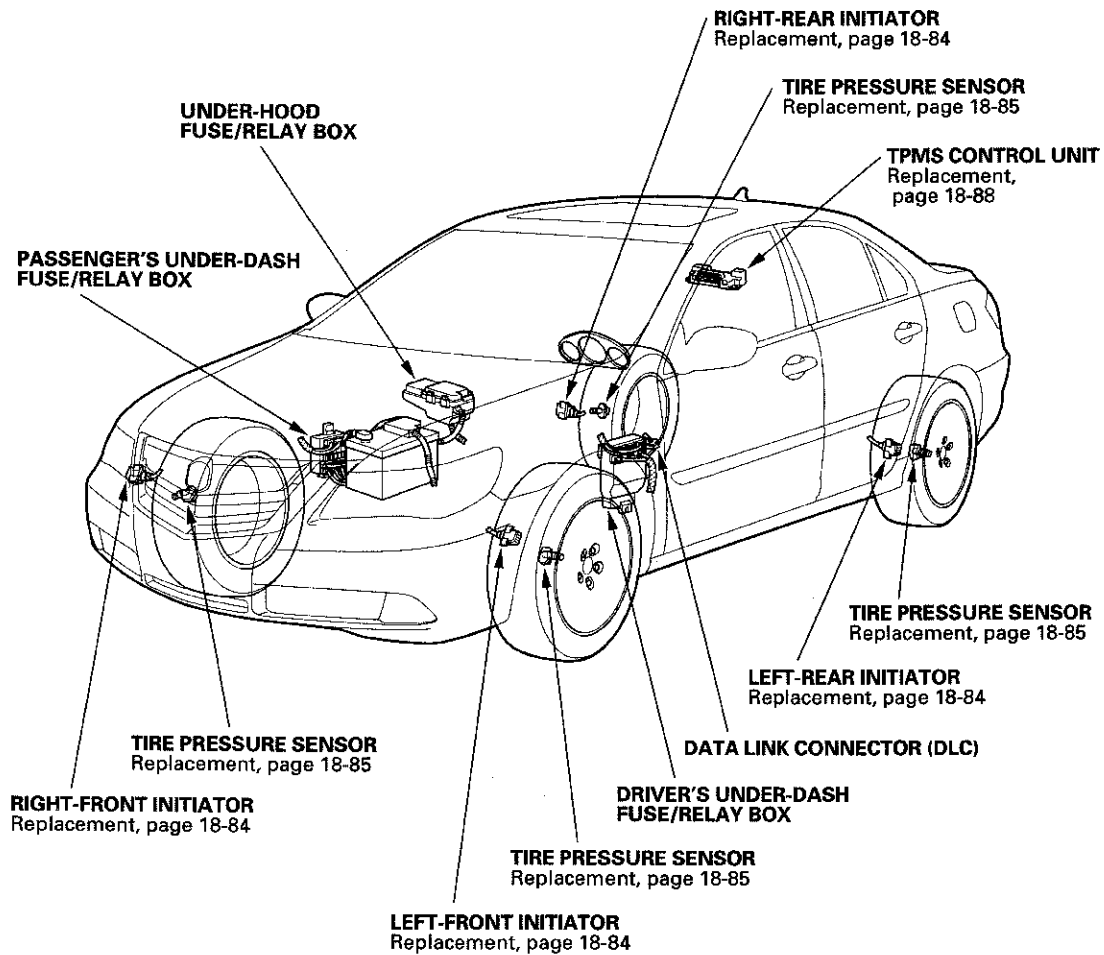
Suspension

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TPMS

Component Location Index

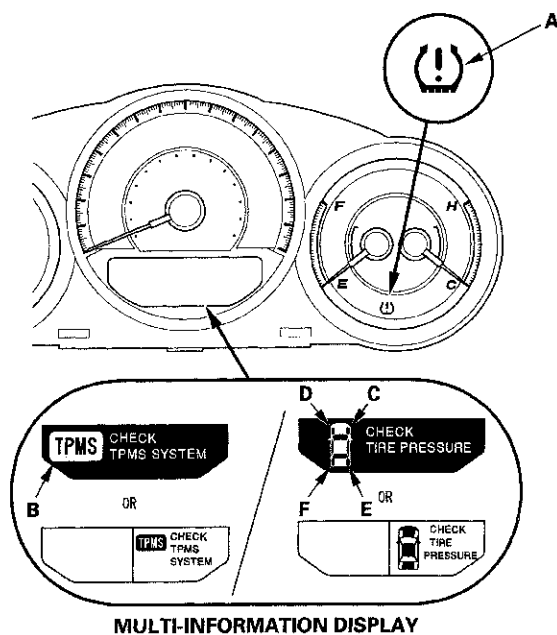


General Troubleshooting Information

System Indicator

The system has seven indicators.

- The low tire pressure indicator (A)
- The TPMS indicator (B)
- The right-front (RF) tire indicator (C)
- The left-front (LF) tire indicator (D)
- The right-rear (RR) tire indicator (E)
- The left-rear (LR) tire indicator (F)



The Low Tire Pressure Indicator

- If the system detects low tire pressure in any of the four tires, the low tire pressure indicator and the appropriate tire indicator(s) come on, as well as the message indicator.
- If the control unit detects a problem in the system during an indication of low tire pressure, it will turn off the tire indicator(s), store the DTC(s), and turn on the TPMS indicator and the low tire pressure indicator after blinking.

The TPMS Indicator

- If a problem in the system is detected, the TPMS indicator comes on, as well as the message indicator, and the low tire pressure indicator comes on after blinking for about 75 seconds.
- If low tire pressure and a problem in the system are detected, the TPMS indicator comes on, as well as the message indicator, and the low tire pressure indicator comes on after blinking for about 75 seconds.

If the system is OK, the TPMS indicator and the low tire pressure indicator should come on when you turn the ignition switch to ON (II) and then go off 2 seconds later. If they don't, there is a problem with the system.

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TPMS

General Troubleshooting Information (cont'd)

DTC 11, 13, 15, 17

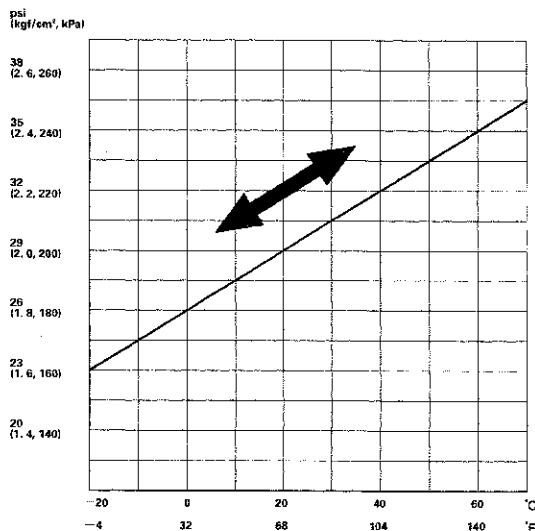
If the system detects low tire pressure in any of the four tires, the low tire pressure indicator and the appropriate tire indicator(s) with the message indicator come on, and the control unit sets one or more of these codes: DTC 11, 13, 15, 17. When the tire pressure returns to normal, and TPMS control unit receives the normal pressure signal from the tire pressure sensor, the control unit turns off the indicators.

Tire Pressure Changing by Temperature

Tire pressures increase slightly as the temperature in the tires rises during driving.

Pressures can also increase or decrease slightly with changes in outside air temperature. A temperature change of about 18 °F (10 °C) changes tire pressure by about 10 kPa (0.1 kgf/cm², 1.5 psi). If the temperature drops, tire pressure could decrease enough to turn on the low tire pressure indicator and tire indicator(s), but later, the tire temperature could increase enough to turn indicator off. To resolve a complaint of such intermittent indications, confirm and clear the stored DTC(s) and check the tire pressures.

Then explain to the client how temperature changes can affect the system.



Problems That Are Not System Faults

- **Tire Sealant**
Fluid sealant used to repair a punctured tire can damage the tire pressure sensor mounted on each wheel. It can prevent the system from detecting the correct tire pressure, which sets a DTC 11, 13, 15 or 17 even though the system is normal.
- **Cold Weather**
When the weather is extremely cold, about -40 °F (-40 °C) or colder, the output of the lithium battery in each tire pressure sensor may drop far enough that the control unit sets a DTC for low battery voltage (31, 33, 35, or 37) even though the system is normal.
- **Non-TPMS Wheels (Including Spare Tire)**
Vehicles equipped with TPMS must use wheels made for the system. Every TPMS wheel has an exclusive mark; do not use any other type of wheel (see page 18-58).
When a flat tire is replaced with the spare tire, the TPMS indicator comes on (DTC 32, 34, 36, or 38) because the system is no longer receiving the signal from the flat tire's transmitter.
This is not a problem with the spare tire.



How a Diagnostic Trouble Code (DTC) is Set

- When the system detects a problem, the TPMS control unit sets a code, but shifts to fail-safe mode, and does not alert the driver to low tire pressures.
- If the TPMS control unit loses power, or fails, the TPMS indicator and the low tire pressure indicator (starts blinking) comes on, but no DTCs are set.
- The memory can hold all the DTCs that could possibly be set. However, when the same DTC is detected more than once, the most recent one overwrites the previous one, so only the latest DTC of each type is stored.
- DTCs are indicated in ascending order, not in the order they occurred.
- Set DTCs are stored in the EEPROM (nonvolatile memory), and cannot be cleared by disconnecting the battery. To clear a DTC, connect the HDS (Honda Diagnostic System) to the data link connector (DLC), and follow the screen prompts.

How to Troubleshoot DTCs

DTC troubleshooting procedures assume the cause of the problem is still present and the TPMS indicator and the low tire pressure indicator (starts blinking) are still on. Do not use a troubleshooting procedure unless the system has set the DTC listed for it.

NOTE: For DTCs 11, 13, 15, and 17 (tire low tire pressure), the TPMS indicator comes on and the low tire pressure indicator blinks only if the DTCs are caused by a system problem rather than low tire pressure.

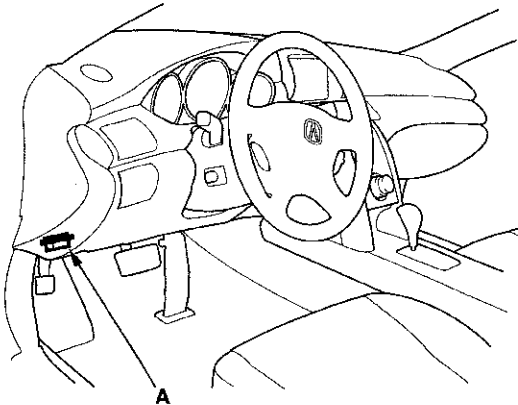
1. Ask the client to describe the conditions when the indicators came on or blinked, and try to reproduce the same conditions for troubleshooting. Find out if the client checked and/or adjusted tire pressures since the indicator came on.
2. If an indicator does not come on during the test-drive, check for loose terminals, poor contact due to damaged terminals, etc. before you start troubleshooting.
3. After troubleshooting, repair and clear the DTCs, and test-drive the vehicle. Make sure no indicators come on.
4. Check for DTCs from other control units that are connected the via F-CAN. If there are DTCs that are related to the F-CAN, the most likely cause was that the ignition switch was turned to ON (II) with the TPMS control unit connector disconnected. Clear the DTCs. Check for PGM-FI and TPMS codes, and troubleshoot those first.

(cont'd)

General Troubleshooting Information (cont'd)

How to Retrieve DTCs

1. With the ignition switch in LOCK (0), connect the HDS (Honda Diagnostic System) to the data link connector (DLC) (A) located under the driver's side of the dashboard.



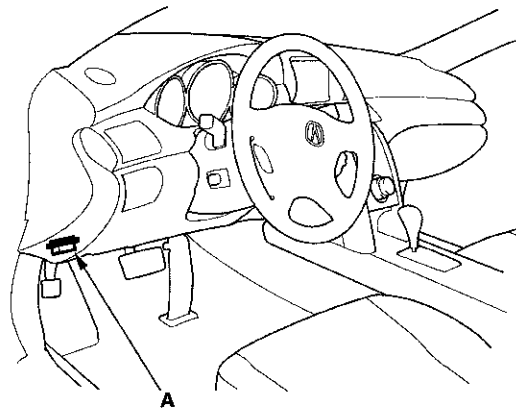
2. Turn the ignition switch to ON (II).
3. Make sure the HDS communicates with the vehicle and the TPMS control unit. If it doesn't, troubleshoot the DLC circuit (see page 11-211).
4. Follow the prompts on the HDS to display the DTC(s) on the screen. After determining the DTC, refer to the DTC troubleshooting.

NOTE: See the HDS Help menu for specific instructions.

5. Turn the ignition switch to LOCK (0).

How to Clear DTCs

1. With the ignition switch in LOCK (0), connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.



2. Turn the ignition switch to ON (II).
3. Make sure the HDS communicates with the vehicle and the TPMS control unit. If it doesn't, troubleshoot the DLC circuit (see page 11-211).
4. Clear the DTC(s) by following the screen prompts on the HDS.

NOTE: See the HDS Help menu for specific instructions.

5. Turn the ignition switch to LOCK (0).



Memorizing the Tire Pressure Sensor ID

Memorizing a Tire Pressure Sensor ID

When a tire pressure sensor is replaced, the sensors ID must be memorized by the TPMS control unit.

NOTE: To ensure the control unit memorizes the correct ID, the vehicle with the new sensor must be at least 10 ft (3 m) away from other vehicles that have tire pressure sensors.

Memorizing a Sensor ID Automatically

After rotating the tires or replacing a tire pressure sensor, drive the vehicle for at least 40 seconds at a speed of 15 mph (24 km/h) or more, and all the sensor IDs are memorized automatically.

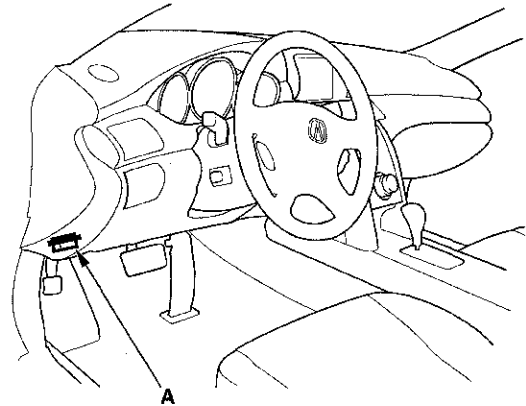
NOTE:

- When replacing the TPMS control unit, use the HDS to memorize IDs.
- After the IDs are memorized, reduce the pressure in all four tires to less than the appropriate specification, and check to see that the four tire indicators come on.

Memorize the ID with the HDS

The HDS can memorize the ID of a new tire pressure sensor or a previously memorized ID.

1. With the ignition switch in LOCK (0), connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.



2. Turn the ignition switch to ON (II).
3. Make sure the HDS communicates with the vehicle and the TPMS control unit. If it doesn't, troubleshoot the DLC circuit (see page 11-211).
4. Memorize the ID of the tire pressure sensor by following the screen prompts on the HDS.

NOTE:

- See the HDS Help menu for specific instructions.
 - When replacing the TPMS control unit, use the HDS to memorize IDs.
 - After the IDs are memorized, reduce the pressure in all four tires to less than the appropriate specification, and check to see that the tire indicators come on.
5. Turn the ignition switch to LOCK (0).

TPMS

DTC Troubleshooting Index

DTC	Detection Item	Troubleshooting
11	Right-front Tire Low Air Pressure	(see page 18-63)
13	Left-front Tire Low Air Pressure	(see page 18-63)
15	Right-rear Tire Low Air Pressure	(see page 18-63)
17	Left-rear Tire Low Air Pressure	(see page 18-63)
21	Right-front Tire Pressure Sensor Abnormally High Temperature	(see page 18-64)
22	Left-front Tire Pressure Sensor Abnormally High Temperature	(see page 18-64)
23	Right-rear Tire Pressure Sensor Abnormally High Temperature	(see page 18-64)
24	Left-rear Tire Pressure Sensor Abnormally High Temperature	(see page 18-64)
31	Right-front Tire Pressure Sensor Low Battery Voltage	(see page 18-64)
32	Right-front Tire Pressure Sensor Signal Failure	(see page 18-65)
33	Left-front Tire Pressure Sensor Low Battery Voltage	(see page 18-64)
34	Left-front Tire Pressure Sensor Signal Failure	(see page 18-65)
35	Right-rear Tire Pressure Sensor Low Battery Voltage	(see page 18-64)
36	Right-rear Tire Pressure Sensor Signal Failure	(see page 18-65)
37	Left-rear Tire Pressure Sensor Low Battery Voltage	(see page 18-64)
38	Left-rear Tire Pressure Sensor Signal Failure	(see page 18-65)
41	Abnormal Signal Reception Error	(see page 18-69)
45	Initiator Circuit Short Detection	(see page 18-70)
51	Right-front Tire Pressure Sensor Registration Error	(see page 18-73)
53	Left-front Tire Pressure Sensor Registration Error	(see page 18-73)
55	Right-rear Tire Pressure Sensor Registration Error	(see page 18-73)
57	Left-rear Tire Pressure Sensor Registration Error	(see page 18-73)
81	TPMS Control Unit Failure	(see page 18-77)
83	No VSP Signal	(see page 18-78)
85	F-CAN Communication Failure	(see page 18-78)
91	Right-front Tire Pressure Sensor Internal Error	(see page 18-79)
93	Left-front Tire Pressure Sensor Internal Error	(see page 18-79)
95	Right-rear Tire Pressure Sensor Internal Error	(see page 18-79)
97	Left-rear Tire Pressure Sensor Internal Error	(see page 18-79)



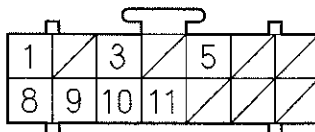
Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
HDS does not communicate with the TPMS control unit or the vehicle	Troubleshoot the DLC circuit (see page 11-211)	Faulty data link cable
Low tire pressure indicator does not come on, and no DTCs are stored	Symptom Troubleshooting (see page 18-80)	
Low tire pressure indicator does not go off, and no DTCs are stored	Symptom Troubleshooting (see page 18-80)	
TPMS indicator does not come on, and no DTCs are stored	Symptom Troubleshooting (see page 18-81)	
TPMS indicator does not go off, and no DTCs are stored	Symptom Troubleshooting (see page 18-81)	

TPMS

System Description

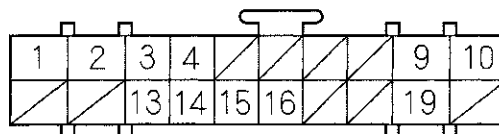
TPMS Control Unit Inputs and Outputs for Connector A (14P)



Wire side of female terminals

Terminal number	Wire color	Terminal sign	Description	Signal
1	RED	+B (Battery positive)	Power source for the TPMS control unit	Under all conditions: Battery voltage
3	BLK	GND (Ground)	Ground for the TPMS control unit	Under all conditions: Less than 0.1 V
5	YEL	IG1 (Ignition 1)	Power source for activating the system	Ignition switch ON (II): Battery voltage Ignitions switch LOCK (0): Less than 0.1 V
8	BRN	LF LF PWR. (LF low frequency power)	Power source for the left-front initiator	For 5 seconds with ignition switch ON (II): About 7 V
9	ORN	RF LF PWR. (RF low frequency power)	Power source for the right-front initiator	For 5 seconds with ignition switch ON (II): About 7 V
10	BRN	LR LF PWR. (LR low frequency power)	Power source for the left-rear initiator	For 5 seconds with ignition switch ON (II): About 7 V
11	PUR	RR LF PWR. (RR low frequency power)	Power source for the right-rear initiator	For 5 seconds with ignition switch ON (II): About 7 V

TPMS Control Unit Inputs and Outputs for Connector B (20P)



Wire side of female terminals

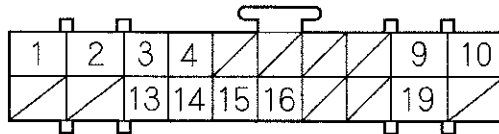
Terminal number	Wire color	Terminal sign	Description	Signal
1	LT GRN	RF LF SIG. (RF low frequency signal)	Detects the signal from the right-front initiator	For the first 5 seconds after turning the ignition switch ON (II): Pulses 0—2 V Ignition switch ON (II) for more than 5 seconds: Less than 0.1 V
2	GRY	RR LF SIG. (RR low frequency signal)	Detects the signal from the right-rear initiator	For the first 5 seconds after turning the ignition switch ON (II): Pulses 0—2 V Ignition switch ON (II) for more than 5 seconds: Less than 0.1 V
3	GRY	LF LF SIG. (LF low frequency signal)	Detects the signal from the left-front initiator	For the first 5 seconds after turning the ignition switch ON (II): Pulses 0—2 V Ignition switch ON (II) for more than 5 seconds: Less than 0.1 V
4	PNK	LR LF SIG. (LR low frequency signal)	Detects the signal from the left-rear initiator	For the first 5 seconds after turning the ignition switch ON (II): Pulses 0—2 V Ignition switch ON (II) for more than 5 seconds: Less than 0.1 V
9	LT BLU	K-LINE (Data link connector)	Communications with HDS	—
10	RED	CANL (CAN communication signal low)	Sends the communication signal	Ignition switch ON (II): Pluses

(cont'd)

TPMS

System Description (cont'd)

TPMS Control Unit Inputs and Outputs for Connector B (20P)



Wire side of female terminals

Terminal number	Wire color	Terminal sign	Description	Signal
13	LT BLU	LF LF GND (LF low frequency ground)	Ground for the left-front initiator	Ignition switch ON (II): Less than 0.1 V
14	PNK	RF LF GND (RF low frequency ground)	Ground for the right-front initiator	Ignition switch ON (II): Less than 0.1 V
15	GRN	LR LF GND (LR low frequency ground)	Ground for the left-rear initiator	Ignition switch ON (II): Less than 0.1 V
16	LT GRN	RR LF GND (RR low frequency ground)	Ground for the right-rear initiator	Ignition switch ON (II): Less than 0.1 V
19	WHT	CANH (CAN communication signal high)	Sends the communication signal	Ignition switch ON (II): Pulses



System Structure

Whenever the engine is running, the TPMS control unit continuously monitors all four tire pressure sensors and the system function. If it detects low pressure in a tire, it alerts the driver by turning on the low tire pressure indicator and the appropriate tire indicator. If it detects a problem in the system, it turns on the TPMS indicator and the low tire pressure indicator (starts blinking).

Initiators

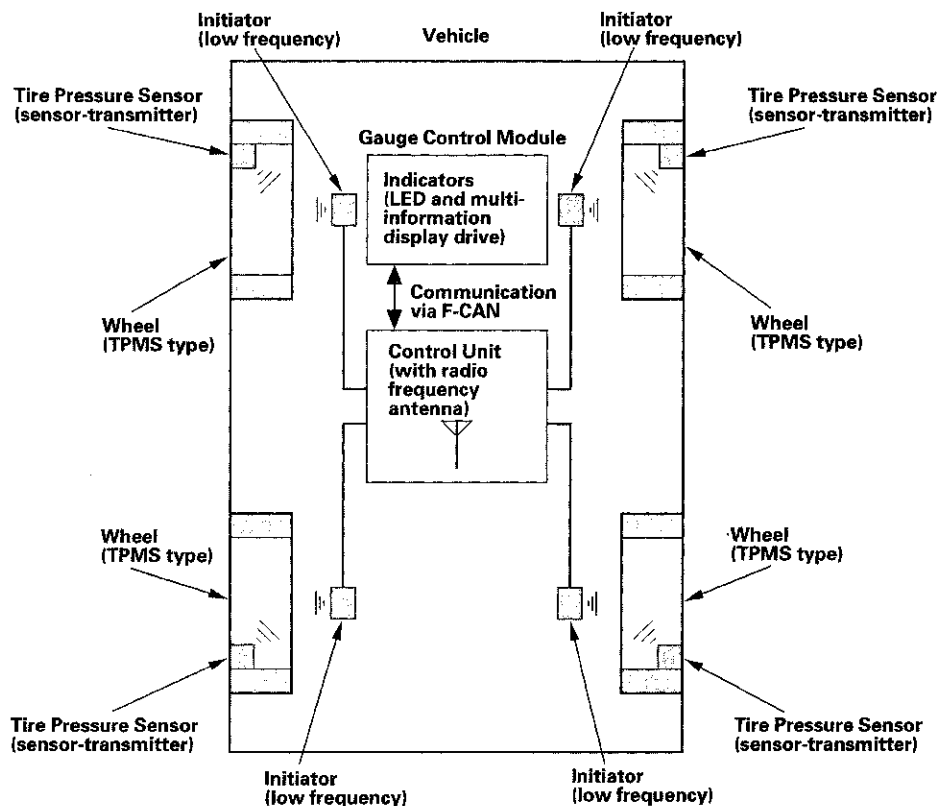
Mounted on the top of each wheel well, each initiator sends a start/stop signal to the tire pressure sensor in the tire below it.

Control unit

Mounted on top of the brake pedal support member, the control unit sends signals to the initiators and receives signals from the tire pressure sensor to verify pressure sensor IDs every time the engine starts. It also receives signals from the transmitters inside the tire pressure sensors, and it continuously monitors and controls the system.

Indicators

All indicators are in the gauge control module: The low tire pressure indicator (LED indicator), the four tire indicators (on the multi-information display) to show which tire is affected, and the TPMS indicator (on the multi-information display) that comes on only if there's a problem with the system. The message indicator (LED indicator) comes on when there is one or more indicators on in the multi-information display. When two or more tire pressures are low, the low tire pressure indicator comes on about 5 seconds before the appropriate tire indicator. Once low pressure is detected, the system scans all four pressure sensors to ensure that it turns on the correct tire indicator.



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TPMS

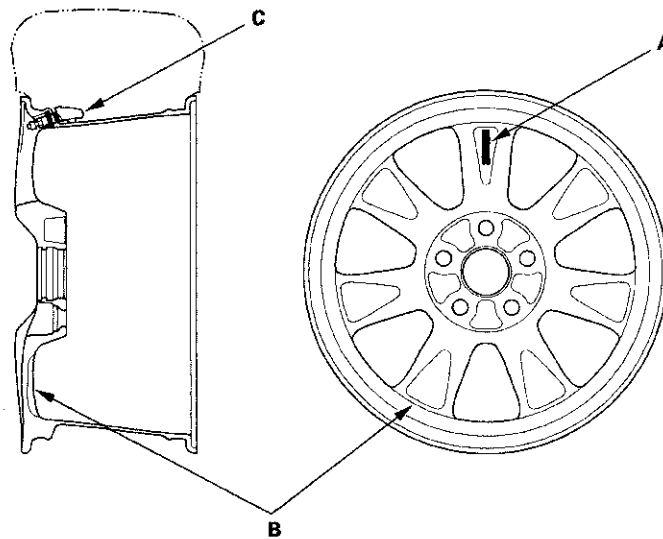
System Description (cont'd)

Tire pressure sensor

Each sensor is an integrated unit made up of the tire valve stem, a pressure sensor, and a transmitter. The unit is attached to the inside of the wheel, around the valve stem. The sensor transmits internal tire information to the control unit, when the TPMS control unit receives a tire pressure reading of less than 168 kPa (1.7 kgf/cm², 24 psi). The TPMS control unit then turns on the low pressure indicator and the appropriate tire(s) indicator. When that tire's pressure is increased to more than 198 kPa (2.0 kgf/cm², 29 psi), the transmitter sends the tire pressure reading to the control unit, and the control unit turns the indicators off.

Wheels

The TPMS will not work unless TPMS type wheels are installed on the vehicle. The original equipment wheels have a "TPMS" mark (A) on them, and a counterweighted (B) by adding material on the opposite side of the tire pressure sensor (C), to counterbalance the weight of the sensor.

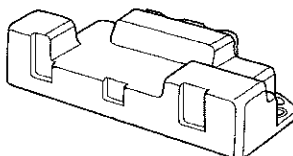


System Communication

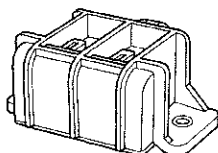
- When the vehicle is running, a RF (radio frequency) band wave signal is transmitted from each tire pressure sensor to the control unit.
- When the ignition switch is turned to ON (II), the initiators send a LF (low frequency) band wave signal to the tire pressure sensors, switching them from sleep mode to normal function mode. When the ignition switch is turned to LOCK (0), the sensors switch from normal function mode back to sleep mode to extend their battery life.
- Each tire pressure sensor has its own ID to prevent jamming by similar systems on other vehicles. After memorizing all the sensor IDs, the control unit recognizes only those specific signals.
- An ID can be memorized manually or automatically. Each initiator is hardwired to the control unit. Every time the ignition is turned to ON (II), the control unit asks each initiator to wake up the appropriate tire pressure sensor. The transmitters in the tire pressure sensors then transmit the sensor IDs, and the control unit receives, and memorizes them. The control unit then knows which ID belongs to each tire location. This recurring ID confirmation prevents any confusion in the system as a result of normal tire rotation.

NOTE: Be careful not to bend the bracket or base on the TPMS control unit and front/rear initiators. Misalignment of the control unit and initiators could interfere with sending and receiving signals.

**Control Unit
(with Radio Frequency Antenna)**



**Initiator
(Low Frequency Initiator)**

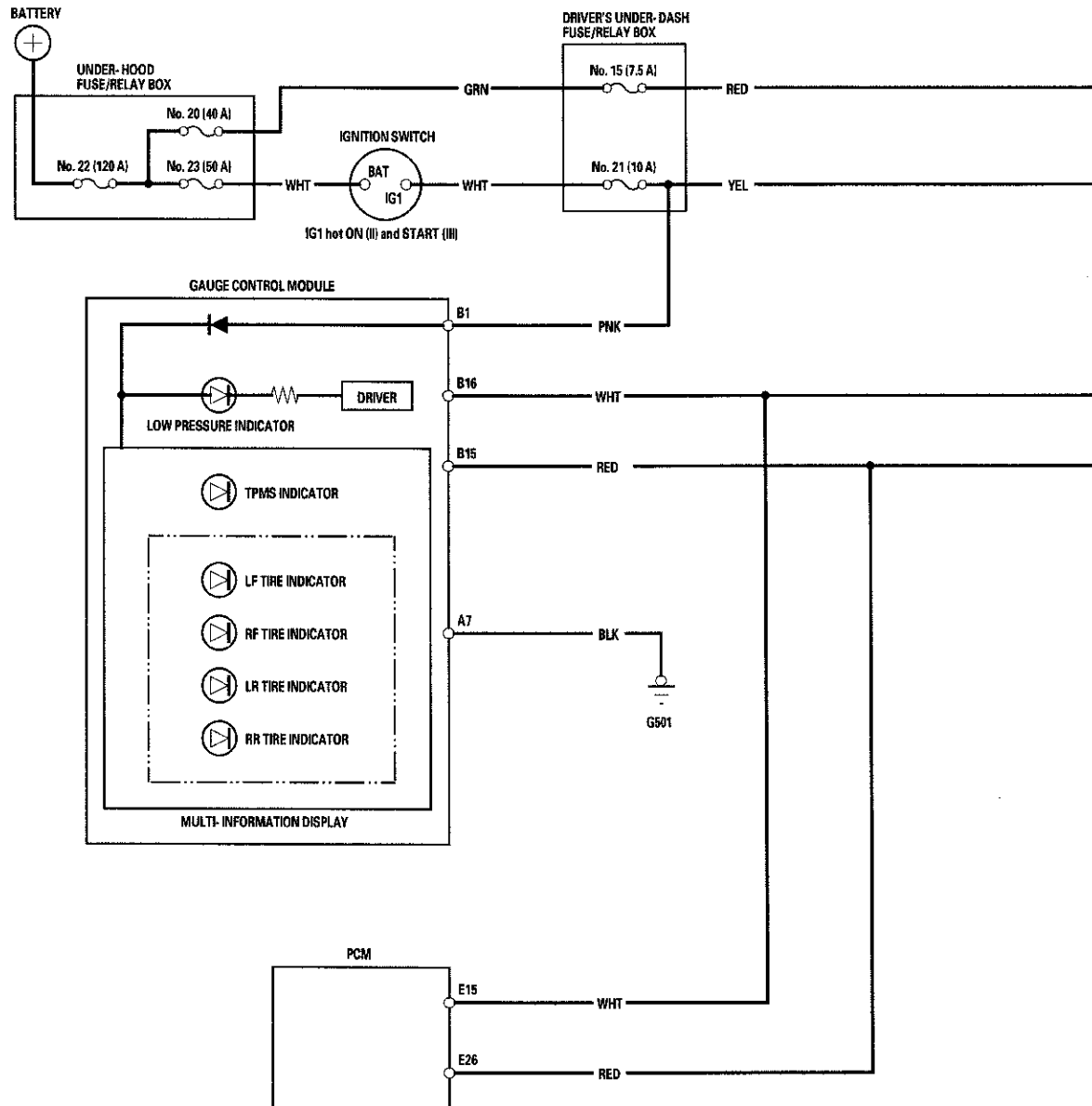


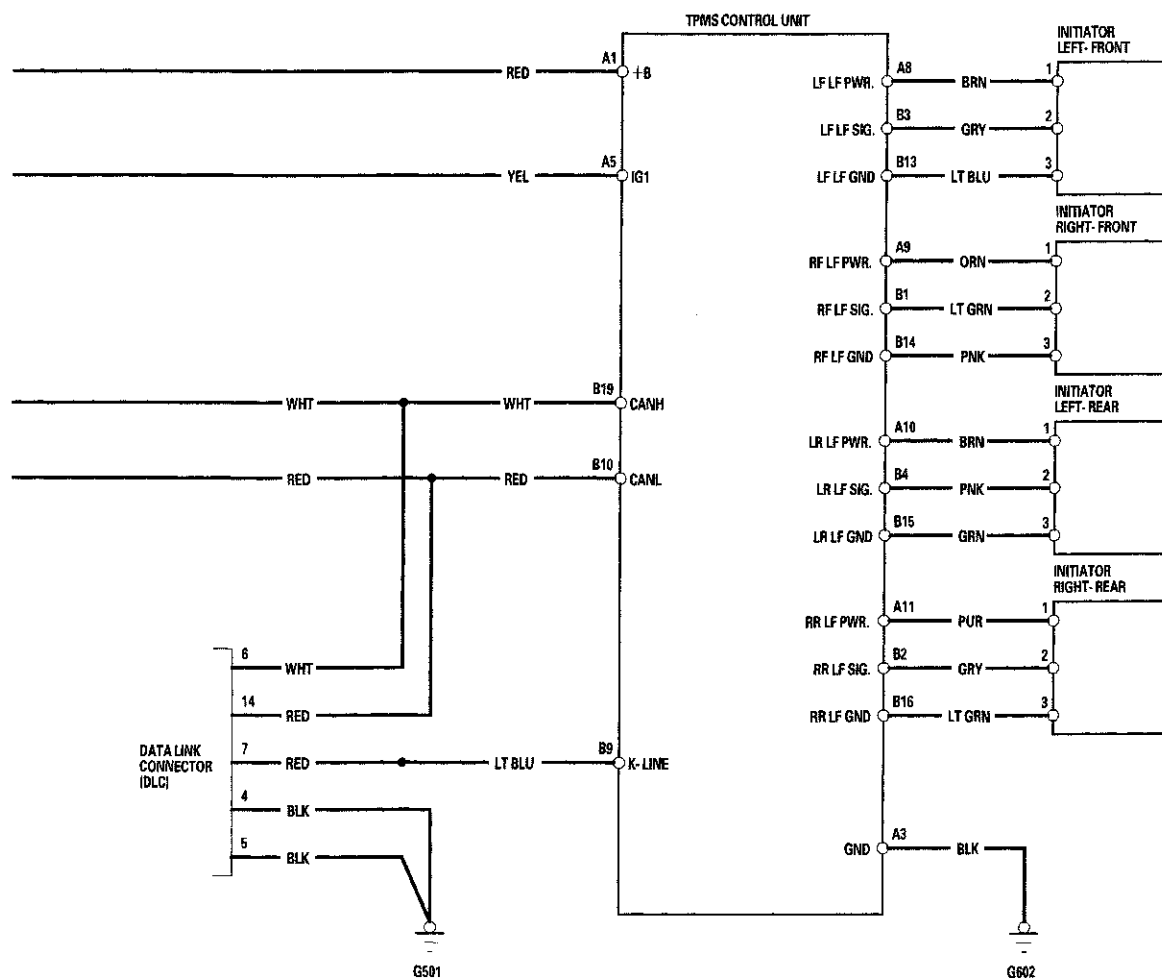
**Tire Pressure Sensor
(Sensor-transmitter)**



TPMS

Circuit Diagram



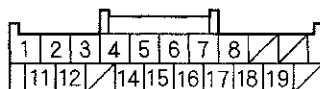


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TPMS

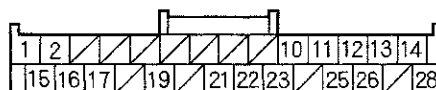
Circuit Diagram (cont'd)

GAUGE CONTROL MODULE CONNECTOR A (20P)



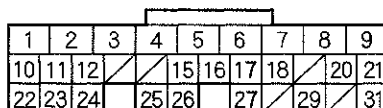
Wire side of female terminals

GAUGE CONTROL MODULE CONNECTOR B (28P)



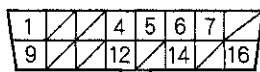
Wire side of female terminals

PCM CONNECTOR E (31P)



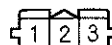
Wire side of female terminals

DATA LINK CONNECTOR (16P)



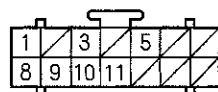
Terminal side of female terminals

INITIATOR CONNECTOR (3P)



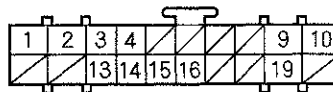
Wire side of female terminals

TPMS CONTROL UNIT CONNECTOR A (14P)



Wire side of female terminals

TPMS CONTROL UNIT CONNECTOR B (20P)



Wire side of female terminals



DTC Troubleshooting

DTC 11, 13, 15, 17: Low Air Pressure

NOTE: If low tire pressure is detected, the control unit sets one or more of these DTCs, and turn on the low tire pressure indicator and the appropriate tire indicator(s). If the low tire pressure and tire indicators come on because of a low tire pressure, and the client corrects it before bringing the vehicle in, the DTCs will be stored, but all the indicators turns off.

1. Turn the ignition switch to LOCK (0).
2. Make sure the tires are inflated to the specified tire pressure listed on the doorjamb sticker.
3. Test-drive the vehicle.

Does the low tire pressure indicator go off?

YES—The system is OK at this time. Check for and repair the cause of air loss. ■

NO—Go to step 4.

4. Check the RF, LF, RR, or LR TIRE PRESSURE in the TPMS DATA LIST with the HDS, and compare it with the measured actual tire pressure.

NOTE: If UNDEFINED is shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

Is the indicated tire pressure on the HDS within 40 kPa (0.4 kgf/cm², 6 psi) of the actual tire pressure?

YES—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

NO—Check that the tire-pressure sensor is properly mounted. If mounting is OK, then replace the appropriate tire pressure sensor (see page 18-85). ■

TPMS

DTC Troubleshooting (cont'd)

DTC 21, 22, 23, 24: Tire Pressure Sensor Abnormally High Temperature

1. Turn the ignition switch to ON (II).
2. Check the tire indicated by the DTCs you retrieved.

NOTE: An abnormal rise in the internal temperature of the tires can be caused by:

- Excessive braking
- Failure to release the parking brake (rear tires only)
- Leaving the vehicle running while parked (front tires)
- Improper assembly of a wheel and tire

DTC	Tire Location
21	Right-front
22	Left-front
23	Right-rear
24	Left-rear

3. Turn the ignition switch to LOCK (0).
4. Make sure the tires have cooled down.
5. Turn the ignition switch to ON (II).

Does the TPMS indicator go off within 1 minute?

YES—The system is OK at this time. Clear the DTC with the HDS. ■

NO—Go to step 6.

6. Check the RF, LF, RR, or LR TIRE PRESSURE SENSOR TEMPERATURE in the TPMS DATA LIST with the HDS.

NOTE: If UNDEFINED shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

Is 176 °F (80 °C) or more indicated?

YES—Replace the appropriate tire pressure sensor (see page 18-85). ■

NO—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

DTC 31, 33, 35, 37: Tire Pressure Sensor Low Battery Voltage

NOTE: This problem occurs when the temperature around the sensor is -40°F (-40°C) or less. Note that the diagnosis must be made in a place where ambient temperature is -4°F (-20°C) or more.

1. Turn the ignition switch to ON (II).

Does the TPMS indicator go off within 1 minute?

YES—The system is OK at this time. Clear the DTC with the HDS. ■

NO—Go to step 2.

2. Check the RF, LF, RR, or LR TIRE PRESSURE SENSOR BATTERY STATUS in the TPMS DATA LIST with the HDS.

NOTE: If UNDEFINED is shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

DTC	Tire Location
31	Right-front
33	Left-front
35	Right-rear
37	Left-rear

Is LOW indicated?

YES—Replace the appropriate tire pressure sensor (see page 18-85). ■

NO—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■



DTC 32, 34, 36, 38: Tire Pressure Sensor Signal Failure

NOTE:

- Inspect for an aftermarket device(s) (such as an inverter, battery charger, etc) interfering with the RF signal from the sensors when turning the ignition switch to ON (II).
- Vehicle must be driven for 3 minutes at 15 mph (24 km/h) or more for DTC 32, 34, 36, or 38 to set.

1. Turn the ignition switch to ON (II).
2. Check the DTC indicated to the tire location to make sure the wheel is a TPMS type with the tire pressure sensor.

DTC	Tire Location
32	Right-front
34	Left-front
36	Right-rear
38	Left-rear

Is a TPMS type wheel with a tire pressure sensor mounted on the vehicle?

YES—Go to step 3.

NO—Install a TPMS type wheel and memorize the sensor ID. Drive the vehicle above 15 mph (24 km/h) continuously for 40 seconds, or memorize the ID with the HDS (see page 18-51). ■

3. Test-drive the vehicle.
4. Check the VEHICLE SPEED in the TPMS DATA LIST with the HDS.

Is the vehicle speed indicated?

YES—Go to step 8.

NO—Go to step 5.

5. Turn the ignition switch to LOCK (0).
6. Turn the ignition switch to ON (II).

7. Check for DTCs with the HDS.

Is DTC 85 indicated?

YES—Go to the DTC 85 troubleshooting (see page 18-78). ■

NO—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

8. Turn the ignition switch to LOCK (0).
9. Turn the ignition switch to ON (II).
10. Check the TPMS DATA LIST for RF, LF, RR, or LR TIRE PRESSURE SENSOR STATUS changes to NORMAL with the HDS.

NOTE: If UNDEFINED is shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

DTC	Tire Location
32	Right-front
34	Left-front
36	Right-rear
38	Left-rear

Is NORMAL indicated within one full turn of the tire?

YES—The system is OK at this time. Clear the DTC with the HDS. ■

NO—Go to step 11.

(cont'd)

TPMS

DTC Troubleshooting (cont'd)

11. Turn the ignition switch to LOCK (0).
12. Substitute a wheel with a known-good tire pressure sensor on the vehicle (see page 18-85).
13. To memorize the sensor ID, drive the vehicle above 15 mph (24 km/h) for 40 continuous seconds, or memorize the ID with the HDS (see page 18-51).
14. Turn the ignition switch to LOCK (0) and wait 2 minutes for the sensors to go to sleep.
15. Turn the ignition switch to ON (II).
16. Check the TPMS DATA LIST for RF, LF, RR, or LR TIRE PRESSURE SENSOR STATUS changes to NORMAL with the HDS.

NOTE: If UNDEFINED is shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

DTC	Tire Location
32	Right-front
34	Left-front
36	Right-rear
38	Left-rear

Is NORMAL indicated within one full turn of the tire?

YES—Replace the tire pressure sensor on the client's wheel (see page 18-85). ■

NO—Go to step 17.

17. Turn the ignition switch to LOCK (0).

18. Substitute an initiator from a known-good location on the current vehicle, or from another known-good vehicle (see page 18-84).
19. To memorize the sensor ID, drive the vehicle above 15 mph (24 km/h) for 40 continuous seconds, or memorize the ID with the HDS (see page 18-51).
20. Turn the ignition switch to LOCK (0) and wait 2 minutes for the sensors to go to sleep.
21. Turn the ignition switch to ON (II).
22. Check the TPMS DATA LIST for RF, LF, RR, and LR TIRE PRESSURE SENSOR STATUS changes to NORMAL with the HDS.

NOTE: If UNDEFINED is shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

DTC	Tire Location
32	Right-front
34	Left-front
36	Right-rear
38	Left-rear

Is NORMAL indicated within one full turn of the tire?

YES—Replace the appropriate initiator (see page 18-84). ■

NO—Go to step 23.

23. Turn the ignition switch to LOCK (0).
24. Disconnect the appropriate initiator 3P connector.

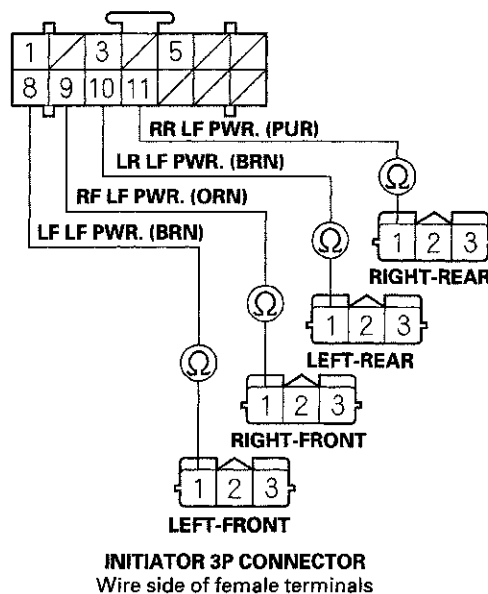
DTC	Initiator Location
32	Right-front
34	Left-front
36	Right-rear
38	Left-rear



25. Disconnect TPMS control unit connector A (14P) and B (20P).
26. Check for continuity between the appropriate TPMS control unit connector A (14P) terminal and appropriate initiator 3P connector terminal No. 1 (see table).

DTC	TPMS Control Unit Connector A (14P) Terminal	Initiator Location
32	No. 9	Right-Front
34	No. 8	Left-Front
36	No. 11	Right-Rear
38	No. 10	Left-Rear

TPMS CONTROL UNIT CONNECTOR A (14P)
Wire side of female terminals



Is there continuity?

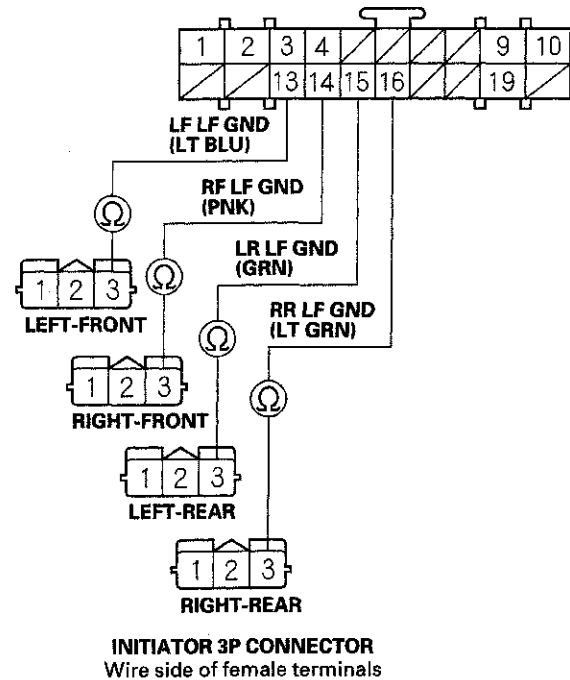
YES—Go to step 27.

NO—Repair an open in the wire between the TPMS control unit and the appropriate initiator. ■

27. Check for continuity between the appropriate TPMS control unit connector B (20P) terminal and appropriate initiator 3P connector terminal No. 3 (see table).

DTC	TPMS Control Unit Connector B (20P) Terminal	Initiator Location
32	No. 14	Right-Front
34	No. 13	Left-Front
36	No. 16	Right-Rear
38	No. 15	Left-Rear

TPMS CONTROL UNIT CONNECTOR B (20P)
Wire side of female terminals



Is there continuity?

YES—Go to step 28.

NO—Repair an open in the wire between the TPMS control unit and the appropriate initiator. ■

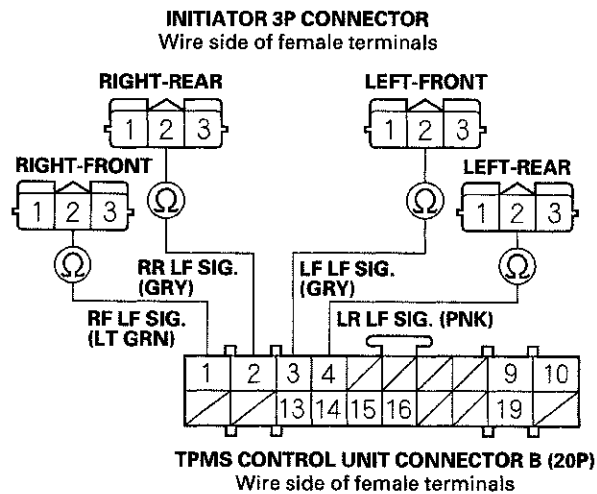
(cont'd)

TPMS

DTC Troubleshooting (cont'd)

28. Check for continuity between the appropriate TPMS control unit connector B (20P) terminal and appropriate initiator 3P connector terminal No. 2 (see table).

DTC	TPMS Control Unit Connector B (20P) Terminal	Initiator Location
32	No. 1	Right-Front
34	No. 3	Left-Front
36	No. 2	Right-Rear
38	No. 4	Left-Rear



Is there continuity?

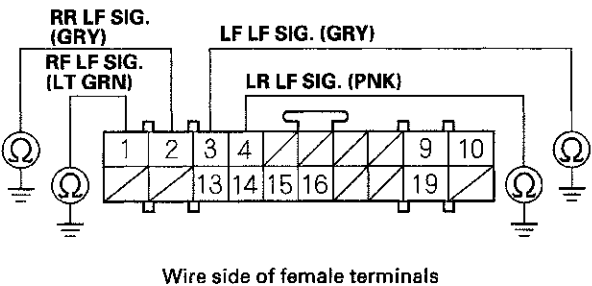
YES—Go to step 29.

NO—Repair an open in the wire between the TPMS control unit and the appropriate initiator. ■

29. Check for continuity between body ground and the appropriate TPMS control unit connector B (20P) terminal (see table).

DTC	TPMS Control Unit Connector B (20P) Terminal
32	No. 1
34	No. 3
36	No. 2
38	No. 4

TPMS CONTROL UNIT CONNECTOR B (20P)



Is there continuity?

YES—Repair a short to body ground in the wire between the TPMS control unit and the appropriate initiator. ■

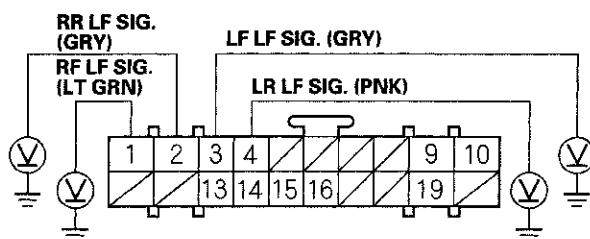
NO—Go to step 30.



30. Turn the ignition switch to ON (II).
31. Measure the voltage between body ground and the appropriate TPMS control unit connector B (20P) terminal (see table).

DTC	TPMS Control Unit Connector B (20P) Terminal
32	No. 1
34	No. 3
36	No. 2
38	No. 4

TPMS CONTROL UNIT CONNECTOR B (20P)



Wire side of female terminals

Is there battery voltage?

YES—Repair a short to power in the wire between the TPMS control unit and the appropriate initiator. ■

NO—Replace the TPMS control unit (see page 18-88). ■

DTC 41: Abnormal Signal Reception Error

NOTE:

- Inspect for an aftermarket electrical device(s) (such as an inverter, battery charger, etc) interfering with the RF signal from the sensors when turning the ignition switch is ON (II).
- If DTC 32, 34, 36, or 38 is also set, troubleshoot those DTCs first.

- Turn the ignition switch to LOCK (0).
- Check all four wheels to make sure they are the TPMS type with the tire pressure sensor.

Is each wheel a TPMS type with a tire pressure sensor mounted on the vehicle?

YES—Go to step 3.

NO—Install a TPMS type wheel, and memorize the sensor ID. Drive the vehicle above 15 mph (24 km/h) continuously for 40 seconds, or memorize the ID with the HDS (see page 18-51). ■

- Test-drive the vehicle.
- Check the VEHICLE SPEED in the TPMS DATA LIST with the HDS.

Is the vehicle speed indicated?

YES—Go to step 8.

NO—Go to step 5.

- Turn the ignition switch to LOCK (0).
- Turn the ignition switch to ON (II).

(cont'd)

TPMS

DTC Troubleshooting (cont'd)

7. Check for DTCs with the HDS.

Is DTC 85 indicated?

YES—Go to the DTC 85 troubleshooting (see page 18-78). ■

NO—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

8. Turn the ignition switch to LOCK (0).

9. Turn the ignition switch to ON (II).

10. Check the TPMS DATA LIST for LF, RF, LR, and RR TIRE PRESSURE SENSOR STATUS changes to NORMAL with the HDS.

NOTE: If UNDEFINED is shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

Is NORMAL indicated within one full turn of the tire?

YES—The system is OK at this time. Clear the DTC with the HDS. ■

NO—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

DTC 45: Initiator Circuit Short Detection

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it to ON (II) again.
4. Check for DTCs with the HDS.

Is DTC 45 indicated?

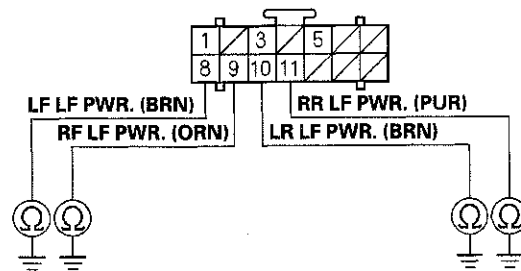
YES—Go to step 5.

NO—The system is OK at this time. ■

5. Turn the ignition switch to LOCK (0).
6. Disconnect TPMS control unit connector A (14P) and B (20P).
7. Check for continuity between body ground and the appropriate TPMS control unit connector A (14P) terminal.

Terminal Name	TPMS Control Unit Connector A (14P) Terminal
RF LF PWR.	No. 9
LF LF PWR.	No. 8
RR LF PWR.	No. 11
LR LF PWR.	No. 10

TPMS CONTROL UNIT CONNECTOR A (14P)



Is there continuity?

YES—Go to step 8.

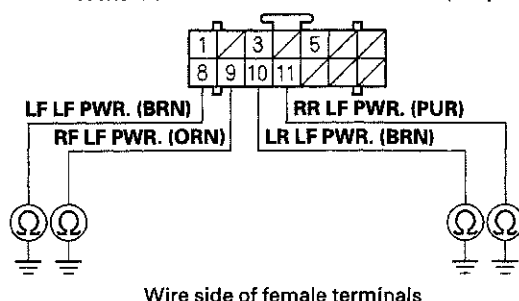
NO—Go to step 10.



8. Disconnect the appropriate initiator 3P connector.
9. Check for continuity between body ground and the appropriate TPMS control unit connector A (14P) terminal.

Terminal Name	TPMS Control Unit Connector A (14P) Terminal
RF LF PWR.	No. 9
LF LF PWR.	No. 8
RR LF PWR.	No. 11
LR LF PWR.	No. 10

TPMS CONTROL UNIT CONNECTOR A (14P)



Is there continuity?

YES—Repair a short to body ground in the wire between the TPMS control unit and the appropriate initiator. ■

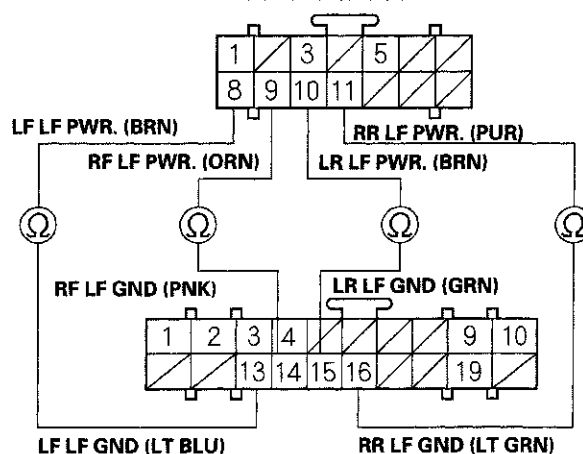
NO—Replace the appropriate initiator (see page 18-84). ■

10. Check for continuity between the appropriate TPMS control unit connector A (14P) and connector B (20P) terminals.

Tire Location	TPMS Control Unit	
	Connector A (14P) Terminal	Connector B (20P) Terminal
Right-front	RF LF PWR./ No. 9	RF LF GND/ No. 14
Left-front	LF LF PWR./ No. 8	LF LF GND/ No. 13
Right-rear	RR LF PWR./ No. 11	RR LF GND/ No. 16
Left-rear	LR LF PWR./ No. 10	LR LF GND/ No. 15

TPMS CONTROL UNIT CONNECTOR A (14P)

Wire side of female terminals



TPMS CONTROL UNIT CONNECTOR B (20P)

Wire side of female terminals

Is there continuity?

YES—Go to step 11.

NO—Go to step 13.

(cont'd)

TPMS

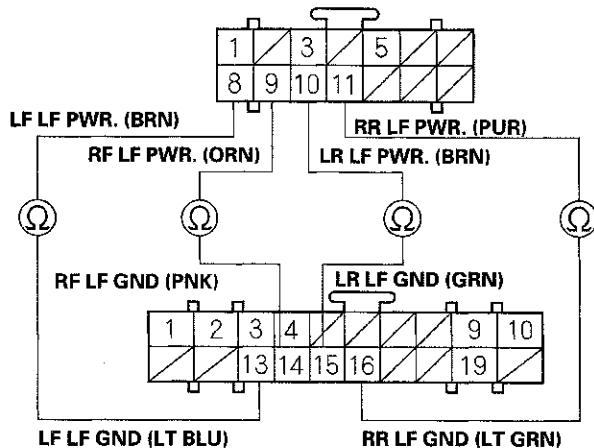
DTC Troubleshooting (cont'd)

11. Disconnect the appropriate initiator 3P connector.
12. Check for continuity between the appropriate TPMS control unit connector A (14P) and connector B (20P) terminals.

Tire Location	TPMS Control Unit	
	Connector A (14P) Terminal	Connector B (20P) Terminal
Right-front	RF LF PWR./ No. 9	RF LF GND/ No. 14
Left-front	LF LF PWR./ No. 8	LF LF GND/ No. 13
Right-rear	RR LF PWR./ No. 11	RR LF GND/ No. 16
Left-rear	LR LF PWR./ No. 10	LR LF GND/ No. 15

TPMS CONTROL UNIT CONNECTOR A (14P)

Wire side of female terminals



TPMS CONTROL UNIT CONNECTOR B (20P)

Wire side of female terminals

Is there continuity?

YES—Repair a short in the wire between the TPMS control unit and the appropriate initiator. ■

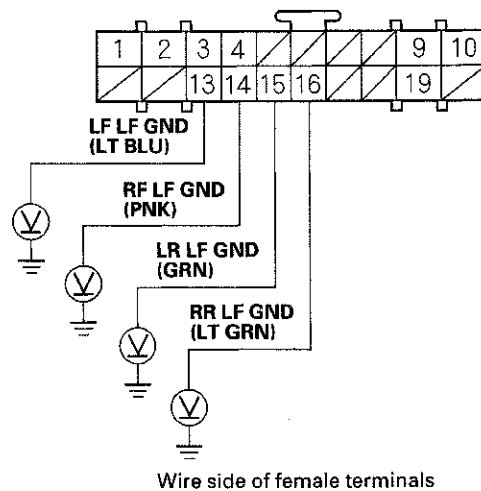
NO—Replace the appropriate initiator (see page 18-84). ■

13. Turn the ignition switch to ON (II).

14. Measure the voltage between body ground and the appropriate TPMS control unit connector B (20P) terminal.

Terminal Name	TPMS Control Unit Connector B (20P) Terminal
RF LF GND.	No. 14
LF LF GND.	No. 13
RR LF GND.	No. 16
LR LF GND.	No. 15

TPMS CONTROL UNIT CONNECTOR B (20P)



Is there battery voltage?

YES—Repair a short to power in the wire between the TPMS control unit and the appropriate initiator. ■

NO—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88) and recheck. ■



DTC 51, 53, 55, 57: Tire Pressure Sensor Registration Error

NOTE: These DTCs will only set during initialization with the HDS.

1. Turn the ignition switch to ON (II).
2. Check the DTC indicated to the tire location to make sure the wheel is a TPMS type with the tire pressure sensor.

DTC	Tire Location
51	Right-front
53	Left-front
55	Right-rear
57	Left-rear

Is a TPMS type wheel with a tire pressure sensor mounted on the vehicle?

YES—Go to step 3.

NO—Install a TPMS type wheel, and memorize the sensor ID. Drive the vehicle above 15 mph (24 km/h) continuously for 40 seconds, or memorize the ID with the HDS (see page 18-51). ■

3. Turn the ignition switch to LOCK (0).
4. Turn the ignition switch to ON (II).

5. Check the TPMS DATA LIST for RF, LF, RR, or LR. TIRE PRESSURE SENSOR STATUS changes to NORMAL with the HDS.

NOTE: If UNDEFINED is shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

DTC	Tire Location
51	Right-front
53	Left-front
55	Right-rear
57	Left-rear

Is NORMAL indicated within one full turn of the tire?

YES—The system is OK at this time. Clear the DTC with the HDS. ■

NO—Go to step 6.

6. Turn the ignition switch to LOCK (0).
7. Substitute a wheel with a known-good tire pressure sensor on the vehicle (see page 18-85).
8. To memorize the sensor ID, drive the vehicle above 15 mph (24 km/h) continuous for 40 seconds, or memorize the ID with the HDS (see page 18-51).
9. Turn the ignition switch to LOCK (0).
10. Turn the ignition switch to ON (II).

(cont'd)

TPMS

DTC Troubleshooting (cont'd)

11. Check the TPMS DATA LIST for RF, LF, RR, or LR TIRE PRESSURE SENSOR STATUS changes to NORMAL with the HDS.

NOTE: If UNDEFINED is shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

DTC	Tire Location
51	Right-front
53	Left-front
55	Right-rear
57	Left-rear

Is NORMAL indicated within one full turn of the tire?

YES—Replace the tire pressure sensor on the client's wheel (see page 18-85). ■

NO—Go to step 12.

12. Turn the ignition switch to LOCK (0).

13. Substitute an initiator from a known-good location on the current vehicle, or from another known-good vehicle (see page 18-84).

14. Turn the ignition switch to ON (II).

15. Check the TPMS DATA LIST for RF, LF, RR, and LR TIRE PRESSURE SENSOR STATUS changes to NORMAL with the HDS.

NOTE: If UNDEFINED is shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

DTC	Tire Location
51	Right-front
53	Left-front
55	Right-rear
57	Left-rear

Is NORMAL indicated within one full turn of the tire?

YES—Replace the appropriate initiator (see page 18-84). ■

NO—Go to step 16.

16. Turn the ignition switch to LOCK (0).

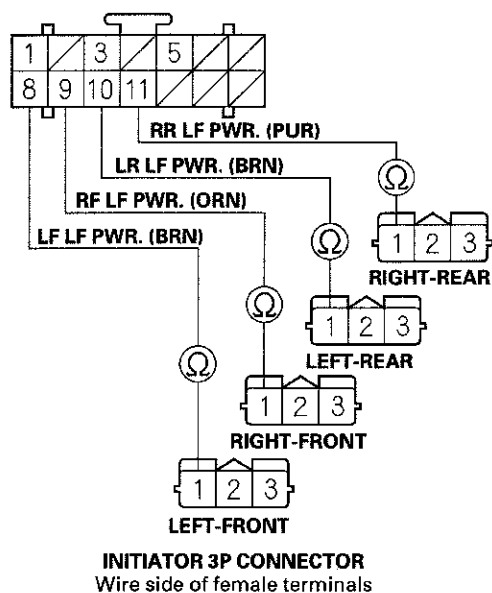
17. Disconnect the appropriate initiator 3P connector.

DTC	Initiator Location
51	Right-front
53	Left-front
55	Right-rear
57	Left-rear

18. Disconnect the TPMS control unit connector A (14P) and B (20P).
19. Check for continuity between the appropriate TPMS control unit connector A (14P) terminal and appropriate initiator 3P connector terminal No. 1 (see table).

DTC	TPMS Control Unit Connector A (14P) Terminal	Initiator Location
51	No. 9	Right-Front
53	No. 8	Left-Front
55	No. 11	Right-Rear
57	No. 10	Left-Rear

TPMS CONTROL UNIT CONNECTOR A (14P)
Wire side of female terminals



Is there continuity?

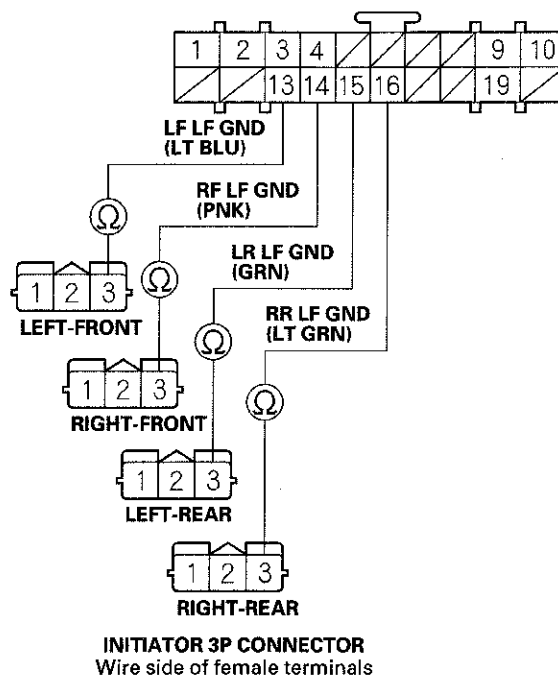
YES—Go to step 20.

NO—Repair an open in the wire between the TPMS control unit and the appropriate initiator. ■

20. Check for continuity between the appropriate TPMS control unit connector B (20P) terminal and appropriate initiator 3P connector terminal No. 3 (see table).

DTC	TPMS Control Unit Connector B (20P) Terminal	Initiator Location
51	No. 14	Right-Front
53	No. 13	Left-Front
55	No. 16	Right-Rear
57	No. 15	Left-Rear

TPMS CONTROL UNIT CONNECTOR B (20P)
Wire side of female terminals



Is there continuity?

YES—Go to step 21.

NO—Repair an open in the wire between the TPMS control unit and the appropriate initiator. ■

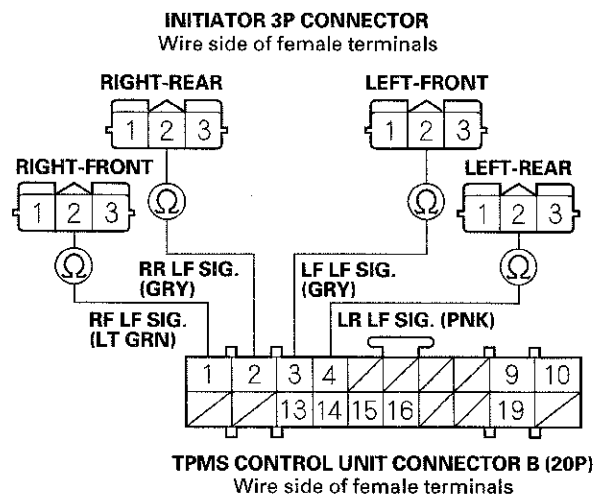
(cont'd)

TPMS

DTC Troubleshooting (cont'd)

21. Check for continuity between the appropriate TPMS control unit connector B (20P) terminal and appropriate initiator 3P connector terminal No. 2 (see table).

DTC	TPMS Control Unit Connector B (20P) Terminal	Initiator Location
51	No. 1	Right-Front
53	No. 3	Left-Front
55	No. 2	Right-Rear
57	No. 4	Left-Rear



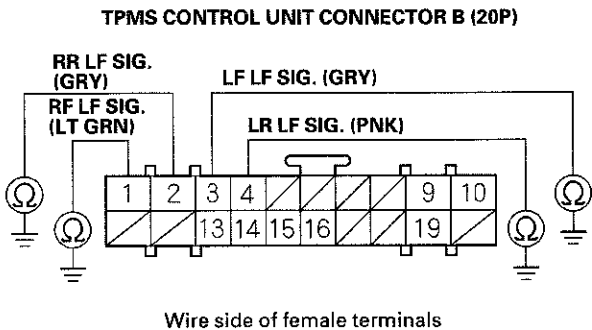
Is there continuity?

YES—Go to step 22.

NO—Repair an open in the wire between the TPMS control unit and the appropriate initiator. ■

22. Check for continuity between body ground and the appropriate TPMS control unit connector B (20P) terminal (see table).

DTC	TPMS Control Unit Connector B (20P) Terminal
51	No. 1
53	No. 3
55	No. 2
57	No. 4



Is there continuity?

YES—Repair a short to body ground in the wire between the TPMS control unit and the appropriate initiator. ■

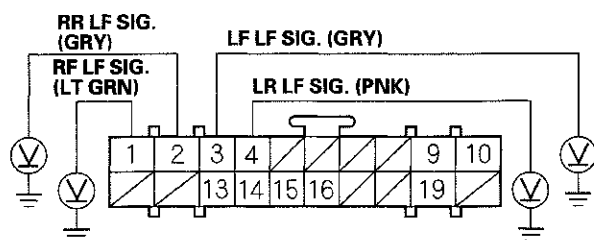
NO—Go to step 23.



23. Turn the ignition switch to ON (II).
24. Measure the voltage between body ground and the appropriate TPMS control unit connector B (20P) terminal (see table).

DTC	TPMS Control Unit Connector B (20P) Terminal
51	No. 1
53	No. 3
55	No. 2
57	No. 4

TPMS CONTROL UNIT CONNECTOR B (20P)



Wire side of female terminals

Is there battery voltage?

YES—Repair a short to power in the wire between the TPMS control unit and the appropriate initiator. ■

NO—Repair the TPMS control unit (see page 18-88). ■

DTC 81: TPMS Control Unit Failure (RAM/ROM/ADC/EEPROM/ALU) Check

NOTE: Low battery voltage can cause this DTC. Make sure the battery is fully charged and in good condition.

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn the ignition switch to ON (II) again.
4. Check for DTCs with the HDS.

Is DTC 81 indicated?

YES—Replace the TPMS control unit (see page 18-88). ■

NO—The system is OK at this time. Check for loose terminals and poor conditions at the TPMS control unit and G602. ■

DTC Troubleshooting (cont'd)

DTC 83: No VSP Signal

NOTE: Check the fuel and emission systems DTCs with the HDS, and troubleshoot the PCM and F-CAN communication errors first (see page 11-3).

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle.
4. Check for DTCs with the HDS.

Is DTC 83 indicated?

YES—Go to step 5.

NO—The system is OK at this time. ■

5. Check for DTCs with the HDS.

Is DTC 85 indicated?

YES—Go to DTC 85 troubleshooting (see page 18-78). ■

NO—Go to step 6.

6. Test-drive the vehicle, and check the VEHICLE SPEED in the TPMS DATA LIST with the HDS.

Is the vehicle speed indicated?

YES—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

NO—Go to step 7.

7. Check the speedometer.

Does the speedometer register speed?

YES—Replace the TPMS control unit (see page 18-88). ■

NO—Update the PCM if it does not have the latest software (see page 11-230), or substitute a known-good PCM (see page 11-7), then go to step 1 and recheck. If the PCM was updated and DTCs are not indicated, troubleshooting is complete. If the PCM was substituted and DTCs are not indicated, replace the original PCM (see page 11-232). ■

DTC 85: F-CAN Communication Failure

NOTE: Check the fuel and emission systems DTCs with the HDS, and troubleshoot the PCM and F-CAN communication errors first (see page 11-3).

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn the ignition switch to ON (II) again.
4. Wait about 5 seconds.
5. Check for DTCs with the HDS.

Is DTC 85 indicated?

YES—Go to step 6.

NO—The system is OK at this time. ■

6. Test-drive the vehicle.

Does the speedometer work?

YES—Go to step 10.

NO—Go to step 7.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the TPMS control unit connector B (20P).
9. Test-drive the vehicle.

Does the speedometer work?

YES—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

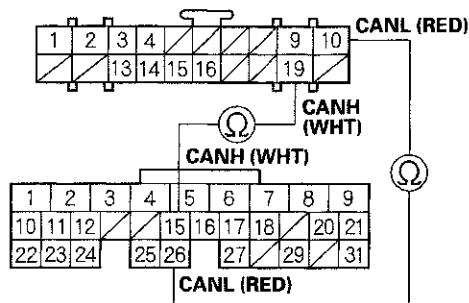
NO—Turn the ignition switch to LOCK (0), and reconnect all connectors, then check and troubleshoot the fuel and emissions systems (see page 11-3). ■



10. Turn the ignition switch to LOCK (0).
11. Short the SCS line with the HDS.
12. Disconnect PCM connector E (31P).
13. Disconnect the TPMS control unit connector B (20P).
14. Check for continuity between the TPMS control unit connector B (20P) terminals and the PCM connector E (31P) terminals individually (see table).

Terminal name	TPMS Control Unit Connector B (20P) Terminal	PCM Connector E (31P) Terminal
CANL	No. 10	No. 26
CANH	No. 19	No. 15

TPMS CONTROL UNIT CONNECTOR B (20P)
Wire side of female terminals



PCM CONNECTOR E (31P)
Wire side of female terminals

Is there continuity?

YES—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

NO—Repair an open in the wire between the TPMS control unit and the PCM. ■

DTC 91, 93, 95, 97: Tire Pressure Sensor Internal Error

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn the ignition switch to ON (II) again.
4. Wait about 1 minute.
5. Check for DTCs with the HDS.

NOTE: The tire pressure sensor of the appropriate wheel is shown.

DTC	Tire Location
91	Right-front
93	Left-front
95	Right-rear
97	Left-rear

Is DTC 91, 93, 95 or 97 indicated?

YES—Replace the appropriate tire pressure sensor (see page 18-85). ■

NO—The system is OK at this time. ■

Symptom Troubleshooting

Low tire pressure indicator does not come on, and no DTCs are stored

1. Turn the ignition switch to ON (II), and check the low tire pressure indicator for several seconds.

Did the indicator come on, and then go off?

YES—Go to step 2.

NO—Do the self-diagnostic function for the gauge control module (see page 22-396). If necessary, substitute a known-good gauge control module (see page 22-419), and recheck. ■

2. Lower the pressure in each tire until the low tire pressure indicator comes on.

Does the indicator come on when the pressure drops below: 168 kPa (1.7 kgf/cm², 24 psi) or less?

YES—The system is OK at this time. ■

NO—Go to step 3.

3. Check the TIRE PRESSURE in the TPMS DATA LIST with the HDS, and compare it with the actual measured the pressure.

NOTE: If UNDEFINED is shown on the sensor transmitter status, turn the ignition switch to LOCK (0), rotate the appropriate tire 1/4 turn, then turn the ignition switch to ON (II), and try again. If UNDEFINED is still displayed, repeat the procedure in the previous sentence until NORMAL is shown.

Is the indicated tire pressure on the HDS within 40 kPa (0.4 kgf/cm², 6 psi) of the actual tire pressure?

YES—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

NO—Replace the tire pressure sensor (see page 18-85). ■

Low tire pressure indicator does not go off, and no DTCs are stored

NOTE: If the low tire pressure indicator is turned on at the same time as the TPMS indicator, go to the following TPMS symptom troubleshooting first: TPMS indicator does not go off, and no DTCs are stored (see page 18-81).

1. Turn the ignition switch to ON (II).
2. Check the low tire pressure indicator for several seconds when the ignition switch is turned ON (II).

Did the indicator come on and then blink for about 75 seconds?

YES—Check for gauge control module DTCs with the HDS (see page 22-6), and do to the indicated gauge control module DTCs troubleshooting. ■

NO—Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the TPMS control unit connector B (20P).
5. Turn the ignition switch to ON (II).
6. Check the low tire pressure indicator for several seconds when the ignition switch is turned ON (II).

Did the indicator come on and then blink for about 75 seconds?

YES—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

NO—Do the self-diagnostic function for the gauge control module (see page 22-396). If necessary, substitute a known-good gauge control module (see page 22-419), and recheck. ■



TPMS indicator does not come on, and no DTCs are stored

1. Turn the ignition switch to LOCK (0).
2. Disconnect TPMS control unit connector B (20P).
3. Turn the ignition switch to ON (II).
4. Check the TPMS indicator when the ignition switch is turned ON (II).

Did the indicator come on?

YES—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

NO—Do the self-diagnostic function for the gauge control module (see page 22-396). If necessary, substitute a known-good gauge control module (see page 22-419), and recheck. ■

TPMS indicator does not go off, and no DTCs are stored

NOTE:

- Check for gauge control module DTCs with the HDS (see page 22-6). If the multiple DTCs are present, including B1178, troubleshoot those DTCs first. If only DTC B1178 is present, continue with the following troubleshooting.
- If the TPMS control unit was replaced, the TPMS indicator will be on until all four sensor ID codes are learned.

1. Turn the ignition switch to LOCK (0).
2. Check the No. 15 (7.5 A) fuse in the driver's under-dash fuse/relay box.

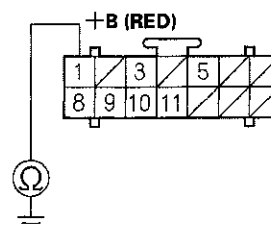
Is the fuse blown?

YES—Go to step 3.

NO—Reinstall the checked fuse, then go to step 5.

3. Disconnect the TPMS control unit connector A (14P).
4. With the No. 15 (7.5 A) fuse removed, check for continuity between body ground and the TPMS control unit connector A (14P) terminal No. 1.

TPMS CONTROL UNIT CONNECTOR A (14P)



Wire side of female terminals

Is there continuity?

YES—Repair a short to body ground in the wire between the No. 15 (7.5 A) fuse in the driver's under-dash fuse/relay box and the TPMS control unit. ■

NO—Install a new No. 15 (7.5 A) fuse in the driver's under-dash fuse/relay box, then go to step 10.

(cont'd)

TPMS

Symptom Troubleshooting (cont'd)

5. Check the No. 21 (10 A) fuse in the driver's under-dash fuse/relay box.

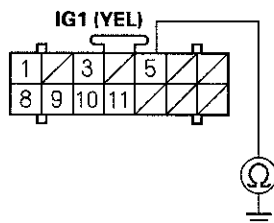
Is the fuse blown?

YES—Go to step 6.

NO—Reinstall the checked fuse, then go to step 12.

6. Disconnect the TPMS control unit connector A (14P).
7. With the No. 21 (10 A) fuse removed, turn the ignition switch to ON (II).
8. Check for continuity between body ground and the TPMS control unit connector A (14P) terminal No. 5.

TPMS CONTROL UNIT CONNECTOR A (14P)



Wire side of female terminals

Is there continuity?

YES—Repair a short to body ground in the wire between the No. 21 (10 A) fuse in the driver's under-dash fuse/relay box and the TPMS control unit. ■

NO—Install a new No. 21 (10 A) fuse in the driver's under-dash fuse/relay box, then go to step 9.

9. Turn the ignition switch to LOCK (0).

10. Turn the ignition switch to ON (II).

11. Check the TPMS indicator for several seconds when the ignition switch is turned ON (II).

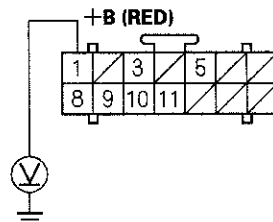
Did the indicator come on, and then go off?

YES—Troubleshooting is complete. ■

NO—Check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control unit (see page 18-88), and recheck. ■

12. Disconnect the TPMS control unit connector A (14P).
13. Measure the voltage between body ground and TPMS control unit connector A (14P) terminal No. 1.

TPMS CONTROL UNIT CONNECTOR A (14P)



Wire side of female terminals

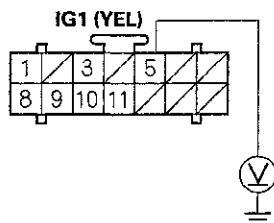
Is there battery voltage?

YES—Go to step 14.

NO—Repair an open in the wire between the TPMS control unit and the No. 15 (7.5 A) fuse in the driver's under-dash fuse/relay box. ■

14. Turn the ignition switch to ON (II).
15. Measure the voltage between body ground and TPMS control unit connector A (14P) terminal No. 5.

TPMS CONTROL UNIT CONNECTOR A (14P)



Wire side of female terminals

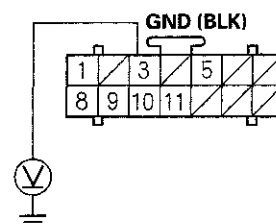
Is there battery voltage?

YES—Go to step 16.

NO—Repair an open in the wire between the TPMS control unit and the No. 21 (10 A) fuse in the driver's under-dash fuse/relay box. ■

16. Turn the ignition switch to LOCK (0).
17. Reconnect the TPMS control unit connector A (14P).
18. Turn the ignition switch to ON (II).
19. Measure the voltage between body ground and TPMS control unit connector A (14P) terminal No. 3.

TPMS CONTROL UNIT CONNECTOR A (14P)



Wire side of female terminals

Is there 0.1 V or more?

YES—Repair an open or high resistance in the wire between the TPMS control unit and body ground (G602). ■

NO—Do the self-diagnostic function for the gauge control module (see page 22-396). If the gauge control module is OK, check for loose terminals and poor connections at the TPMS control unit. If necessary, substitute a known-good TPMS control (see page 18-88), and recheck. ■

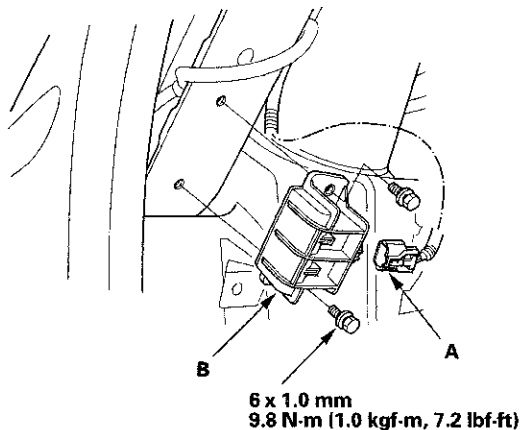
TPMS

Initiator Replacement

Front

NOTE: Make sure the initiator mounting bracket is not bent or twisted as this may affect its communication with the TPMS control unit and the tire pressure sensor.

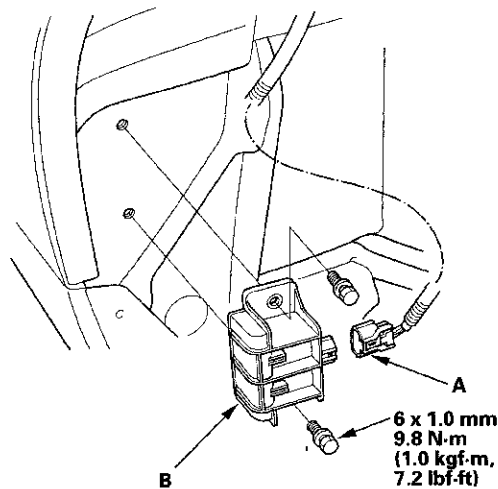
1. Make sure the ignition switch is in LOCK (0).
2. Raise the front of the vehicle, and support it with safety stands in the proper locations (see page 1-8).
3. Remove the wheel nuts, and the front wheel, taking care not to scratch the caliper.
4. Remove the front inner fender (see page 20-176).
5. Disconnect the initiator connector (A).



6. Remove the initiator (B) from the bracket.
7. Install the initiator in the reverse order of removal.

Rear

1. Make sure the ignition switch is in LOCK (0).
2. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see page 1-8).
3. Remove the wheel nuts, and the rear wheel, taking care not to scratch the caliper.
4. Remove the rear inner fender cover (see page 20-179).
5. Disconnect the initiator connector (A).



6. Remove the initiator (B) from the inner side of the wheel well.
7. Install the initiator in the reverse order of removal.

Tire Pressure Sensor Replacement

Removal

NOTICE

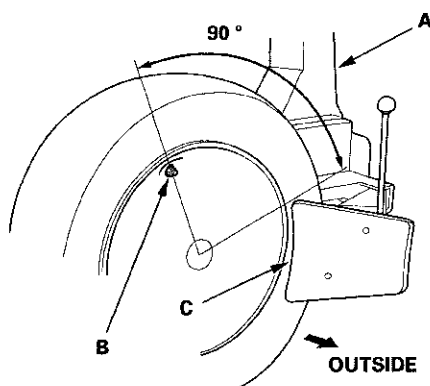
Each TPMS sensor contains a lithium anode battery that is not removable. The complete TPMS sensor should be disposed of according to local battery disposal guidelines or requirements. An improperly disposed battery can be harmful to the environment.

1. Raise the vehicle on a lift (see page 1-8).
2. Remove the wheel with the faulty sensor.
3. Remove the tire valve cap and the valve core, and let the tire deflate.
4. Remove any balance weights, and then break the bead loose from the wheel with a commercially available tire changer (A).

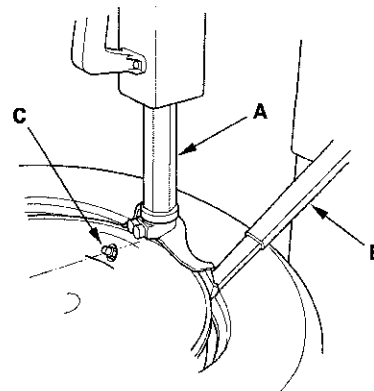
NOTICE

Note these items to avoid damaging the tire pressure sensor:

- Do the outside of the wheel first.
- Position the wheel as shown so the valve stem (B) is 90 degrees from the bead breaker (C) as shown.
- Do not position the bead breaker of the tire changer too close to the rim.

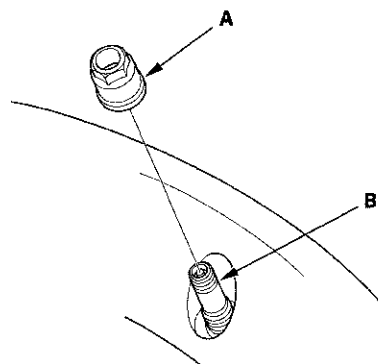


5. Position the wheel so that the tire machine (A) and the tire iron (B) are next to the valve stem (C) and will move away from it when the machine starts. Then remove the tire from the wheel.



6. Remove the valve stem nut (A), then remove the tire pressure sensor with the valve stem (B) from the wheel.

NOTE: Check the nut, if they have deterioration or damage, replace them with new ones during reassembly.



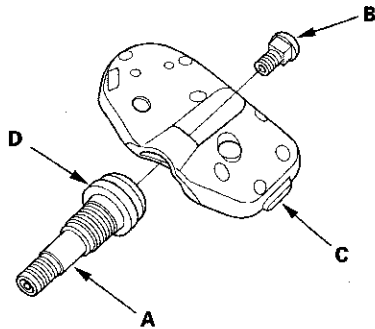
(cont'd)

TPMS

Tire Pressure Sensor Replacement (cont'd)

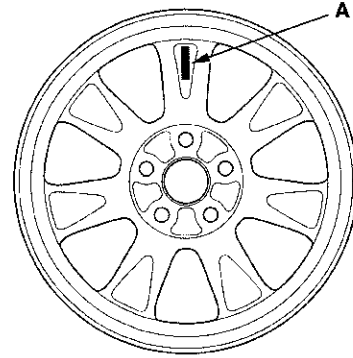
7. Remove and replace the valve stem (A), and the screw (B) from the tire pressure sensor (C).

NOTE: The valve stem grommet (D) might stay in the wheel; make sure you remove it.



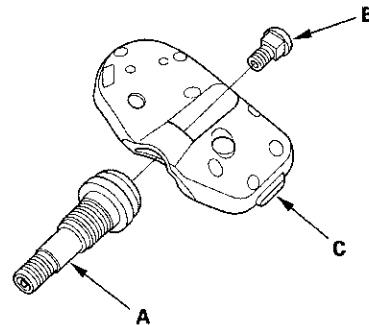
Installation

NOTE: Use only wheels that have a "TPMS" mark (A) on them.

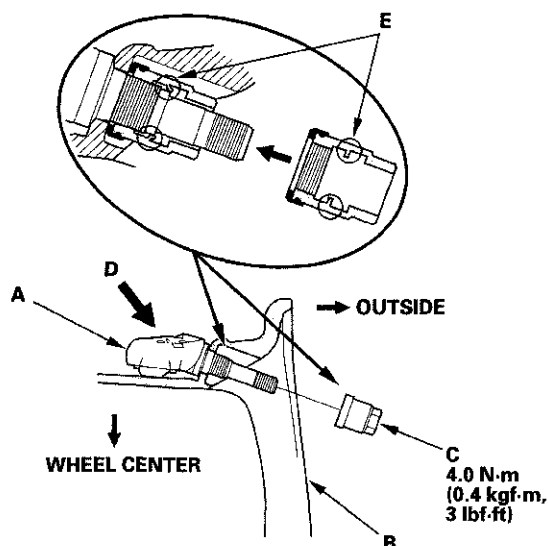


1. Assemble a new valve stem (A), a new screw (B), and a sensor-transmitter (C).

NOTE: Always use a new valve stem and a new screw.



2. Before installing the tire pressure sensor, clean the mating surfaces on the sensor and the wheel.
3. Install the tire pressure sensor (A) to the wheel (B), and tighten the valve stem nut (C) finger tight. Make sure the pressure sensor is resting on the wheel.

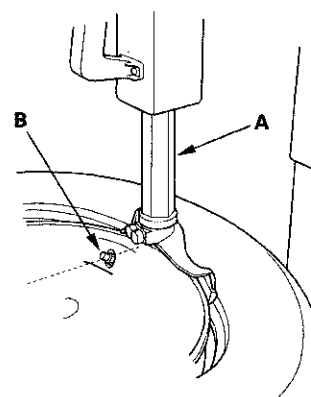


4. Tighten the valve nut to the specified torque while holding the tire pressure sensor toward (D) the wheel. You may hear a snap or pop as you tighten the nut. This is normal.

NOTE:

- Do not reuse the nuts that had been tightened, even one time, to the specified torque, as they are deformed inside (E).
- Do not use air or electric impact tools to tighten a valve stem nut.
- Tightening the nut beyond the specified torque can damage the nut.
- Make sure that there is no space between the sensor and the wheel.

5. Lube the tire bead sparingly, and position the wheel so that the tire machine (A) are next to the valve stem (B) and will move away from it when the machine starts. Then install the tire onto the wheel.



6. With a dry air source, inflate the tire to 300 kPa (3.1 kgf/cm², 44 psi) to seat the tire bead to the rim, then adjust the tire pressure to front 220 kPa (2.2 kgf/cm², 32 psi), rear 210 kPa (2.1 kgf/cm², 30 psi), and install the valve stem cap.

NOTE: Make sure the tire bead is seated on both sides of the rim uniformly.

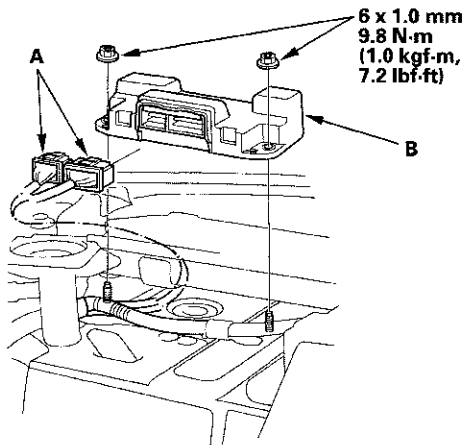
7. Check and adjust the wheel balance, then install the wheels to the vehicle.
8. Lower the vehicle. Torque the wheel nuts to specifications (see page 18-12).
9. Connect the HDS, and memorize the pressure sensor ID(s) (see page 18-51).

TPMS

TPMS Control Unit Replacement

NOTE: Make sure the TPMS control unit mounting base is not bent or twisted as this may affect communication with the indicators and the tire pressure sensors.

1. Make sure the ignition switch is in LOCK (0).
2. Remove the rear shelf (see page 20-80).
3. Disconnect the TPMS control unit connectors (A).



4. Remove the TPMS control unit (B).
5. Install the TPMS control unit in the reverse order of removal.
6. Connect the HDS, and memorize the pressure sensor IDs (see page 18-51). Do not memorize the IDs automatically.