

A  
B  
C  
D

# WT

## SECTION

### ROAD WHEELS & TIRES

## CONTENTS

WT

|  |    |  |    |   |
|--|----|--|----|---|
| <b>BASIC INSPECTION</b> .....                  | 3  | <b>Special Repair Requirement</b> .....      | 17 | F |
| <b>DIAGNOSIS AND REPAIR WORKFLOW</b> .....     | 3  | <b>C1729 VEHICLE SPEED SIGNAL</b> .....      | 18 |   |
| Repair Work Flow .....                         | 3  | Description .....                            | 18 | G |
| <b>INSPECTION AND ADJUSTMENT</b> .....         | 5  | DTC Logic .....                              | 18 |   |
| Preliminary Check .....                        | 5  | Vehicle Speed Signal .....                   | 18 |   |
| Transmitter Wake Up Operation .....            | 5  | <b>ECU DIAGNOSIS</b> .....                   | 19 | H |
| ID Registration Procedure .....                | 6  | <b>BCM (BODY CONTROL MODULE)</b> .....       | 19 |   |
| <b>FUNCTION DIAGNOSIS</b> .....                | 8  | Terminals and Reference Values (BCM) .....   | 19 | I |
| <b>TPMS</b> .....                              | 8  | Wiring Diagram .....                         | 19 |   |
| System Diagram .....                           | 8  | Self-Diagnosis .....                         | 21 | J |
| System Description .....                       | 8  | Flash Code Chart .....                       | 22 |   |
| System Component .....                         | 10 | <b>SYMPTOM DIAGNOSIS</b> .....               | 24 | K |
| <b>DIAGNOSIS SYSTEM (BCM)</b> .....            | 11 | <b>TPMS</b> .....                            | 24 |   |
| CONSULT-III Function (BCM) .....               | 11 | Symptom Table .....                          | 24 | L |
| Self-Diagnosis .....                           | 11 | <b>LOW TIRE PRESSURE WARNING LAMP</b>        |    |   |
| <b>COMPONENT DIAGNOSIS</b> .....               | 13 | <b>DOES NOT TURN ON</b> .....                | 25 | M |
| <b>C1708 - C1711 DATA FROM TRANSMITTER</b>     |    | Low Tire Pressure Warning Lamp Does Not Come |    |   |
| <b>NOT BEING RECEIVED</b> .....                | 13 | On When Ignition Switch Is Turned On .....   | 25 | N |
| Description .....                              | 13 | <b>LOW TIRE PRESSURE WARNING LAMP</b>        |    |   |
| DTC Logic .....                                | 13 | <b>STAYS ON</b> .....                        | 26 | O |
| Data from Transmitter Not Being Received ..... | 13 | Low Tire Pressure Warning Lamp Stays On When |    |   |
| Special Repair Requirement .....               | 14 | Ignition Switch Is Turned On .....           | 26 | P |
| <b>C1712 - C1715, C1720 - C1723, C1724 -</b>   |    | <b>LOW TIRE PRESSURE WARNING LAMP</b>        |    |   |
| <b>C1727 TRANSMITTER MALFUNCTION</b> .....     | 15 | <b>BLINKS</b> .....                          | 27 |   |
| Description .....                              | 15 | Low Tire Pressure Warning Lamp Flashes When  |    |   |
| DTC Logic .....                                | 15 | Ignition Switch Is Turned On .....           | 27 |   |
| Transmitter Malfunction .....                  | 15 | <b>HAZARD WARNING LAMPS FLASH</b> .....      | 28 |   |
| Special Repair Requirement .....               | 16 | Hazard Warning Lamps Flash When Ignition     |    |   |
| <b>C1716 - C1719 TRANSMITTER PRESSURE</b>      |    | Switch Is Turned On .....                    | 28 |   |
| <b>MALFUNCTION</b> .....                       | 17 | <b>"TIRE PRESSURE" INFORMATION IN DIS-</b>   |    |   |
| Description .....                              | 17 | <b>PLAY UNIT DOES NOT EXIST</b> .....        | 29 |   |
| DTC Logic .....                                | 17 |  |    |   |
| Transmitter Pressure Malfunction .....         | 17 |  |    |   |

|   |           |  |           |
|---|-----------|--|-----------|
| "TIRE PRESSURE" Information in Display Unit<br>Does Not Exist .....                                 | 29        | <b>ON-VEHICLE MAINTENANCE .....</b>                    | <b>34</b> |
| <b>ID REGISTRATION CANNOT BE COMPLETED .....</b>  | <b>30</b> | <b>WHEEL .....</b>                                     | <b>34</b> |
| ID Registration Cannot Be Completed .....   | 30        | Inspection .....                                       | 34        |
| <b>PRECAUTION .....</b>   | <b>31</b> | <b>ON-VEHICLE REPAIR .....</b>                         | <b>35</b> |
| <b>PRECAUTIONS .....</b>  | <b>31</b> | <b>WHEEL AND TIRE ASSEMBLY .....</b>                   | <b>35</b> |
| Precaution for Supplemental Restraint System<br>(SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" ..... | 31        | Balancing Wheels .....                                 | 35        |
| Precaution for work .....   | 31        | Rotation .....   | 36        |
| <b>PREPARATION .....</b>  | <b>32</b> | <b>REMOVAL AND INSTALLATION .....</b>                  | <b>38</b> |
| <b>PREPARATION .....</b>  | <b>32</b> | <b>REMOVAL AND INSTALLATION .....</b>                  | <b>38</b> |
| Special Service Tool .....  | 32        | Transmitter (Pressure Sensor) .....                    | 38        |
| <b>SYMPTOM DIAGNOSIS .....</b>  | <b>33</b> | <b>SERVICE DATA AND SPECIFICATIONS<br/>(SDS) .....</b> | <b>40</b> |
| <b>NOISE, VIBRATION, AND HARSHNESS<br/>(NVH) TROUBLESHOOTING .....</b>                              | <b>33</b> | <b>SERVICE DATA AND SPECIFICATIONS<br/>(SDS) .....</b> | <b>40</b> |
| NVH Troubleshooting Chart .....   | 33        | Road Wheel .....                                       | 40        |
|   |           | Tire .....   | 40        |

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

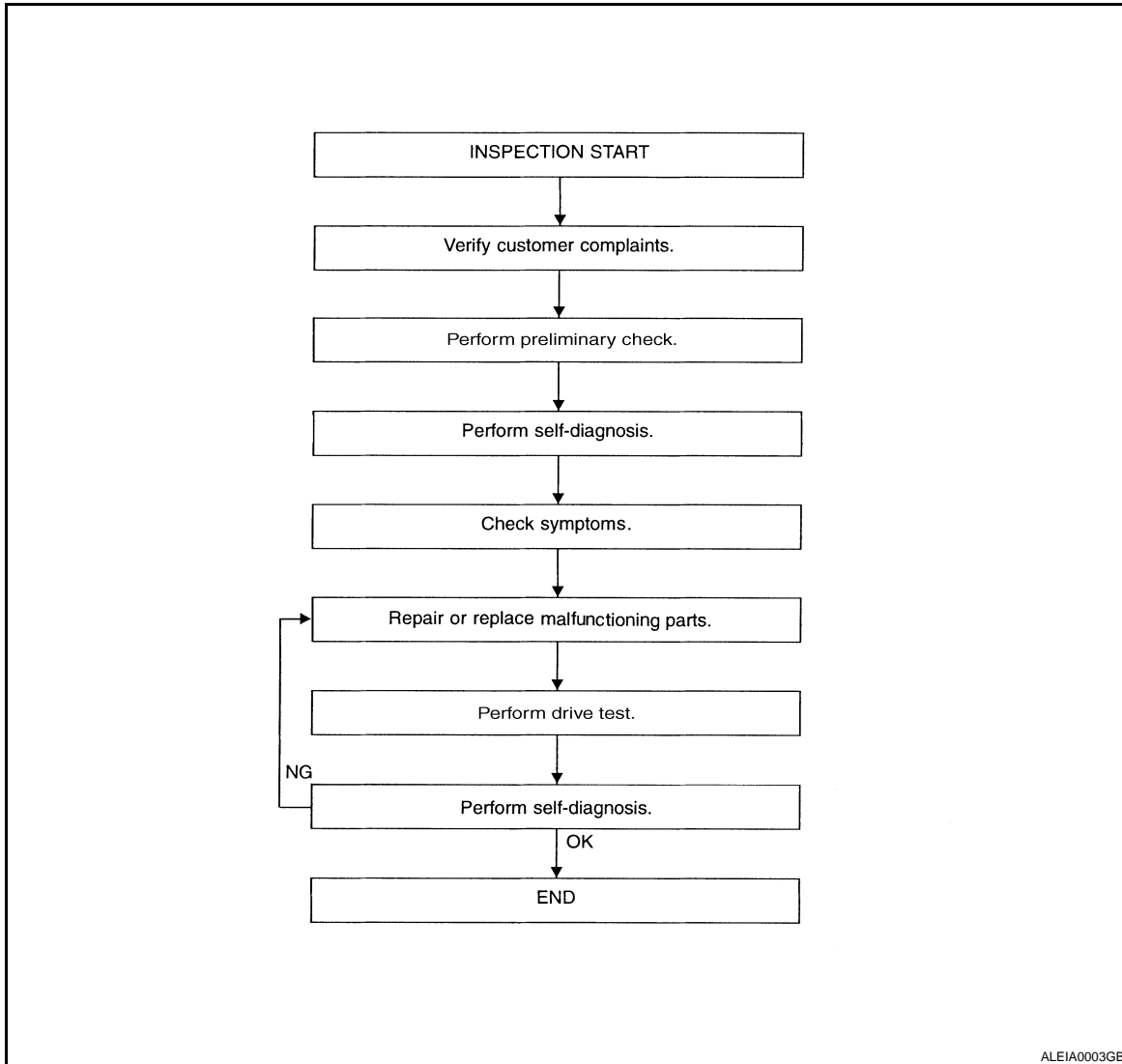
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

Repair Work Flow

INFOID:000000001277800

WORK FLOW



[WT-5. "Preliminary Check"](#)

[WT-11. "Self-Diagnosis"](#)

[WT-24. "Symptom Table"](#)

DETAILED FLOW

#### 1. CUSTOMER INFORMATION

Interview the customer to obtain detailed information about the symptom.

>> GO TO 2

#### 2. PRELIMINARY CHECK

Perform preliminary check. Refer to [WT-5. "Preliminary Check"](#)

>> GO TO 3

A  
B  
C  
D  
WT  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

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## 3.SELF-DIAGNOSIS

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Perform SELF-DIAGNOSIS. Refer to [WT-11. "Self-Diagnosis"](#) (with CONSULT-III) or [WT-22. "Flash Code Chart"](#) (without CONSULT-III).

>> GO TO 4

## 4.SYMPTOM

---

Check for symptoms. Refer to [WT-24. "Symptom Table"](#).

>> GO TO 5

## 5.MALFUNCTIONING PARTS

---

Repair or replace the applicable parts.

>> GO TO 6

## 6.DRIVE TEST

---

1. Perform a drive test.
2. Check the low tire pressure warning lamp.

>> GO TO 7

## 7.SELF-DIAGNOSIS

---

Perform SELF-DIAGNOSIS.

Are any DTC's displayed?

- YES >> GO TO 5  
NO >> INSPECTION END

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

## INSPECTION AND ADJUSTMENT

### Preliminary Check

INFOID:000000001277801

#### 1. TIRE PRESSURE

Check all tire pressures. Refer to [WT-40, "Tire"](#).

Do tire pressures match specification?

YES >> GO TO 2.

NO >> Adjust tire pressures to specified value.

#### 2. LOW TIRE PRESSURE WARNING LAMP

Check low tire pressure warning lamp activation.

Does the low tire pressure warning lamp activate for one second when ignition switch is turned ON?

YES >> GO TO 3.

NO >> GO TO [WT-25, "Low Tire Pressure Warning Lamp Does Not Come On When Ignition Switch Is Turned On"](#).

#### 3. BCM CONNECTOR

1. Disconnect BCM harness connectors.
2. Check terminals for damage or loose connections.
3. Reconnect harness connectors.

Are BCM connectors damaged or loose?

YES >> Repair or replace damaged parts.

NO >> GO TO 4.

#### 4. TRANSMITTER ACTIVATION TOOL

Check battery in transmitter activation tool.

Is transmitter activation tool battery fully charged?

YES >> Perform self-diagnosis. Refer to [WT-21, "Self-Diagnosis"](#).

NO >> Replace battery in transmitter activation tool.

### Transmitter Wake Up Operation

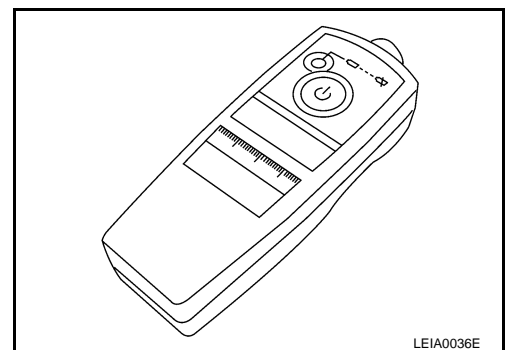
INFOID:000000001277802

#### NOTE:

**This procedure must be done after replacement of a low tire pressure warning transmitter or BCM. New replacement transmitters are provided asleep and must first be woken up using Transmitter Activation Tool J-45295 before ID registration can be performed.**

1. Turn ignition switch ON. Push the transmitter activation tool against the tire near the front left transmitter. Press the button for 5 seconds. The hazard warning lamps flash per the following diagram.

**Tool number : (J-45295)**



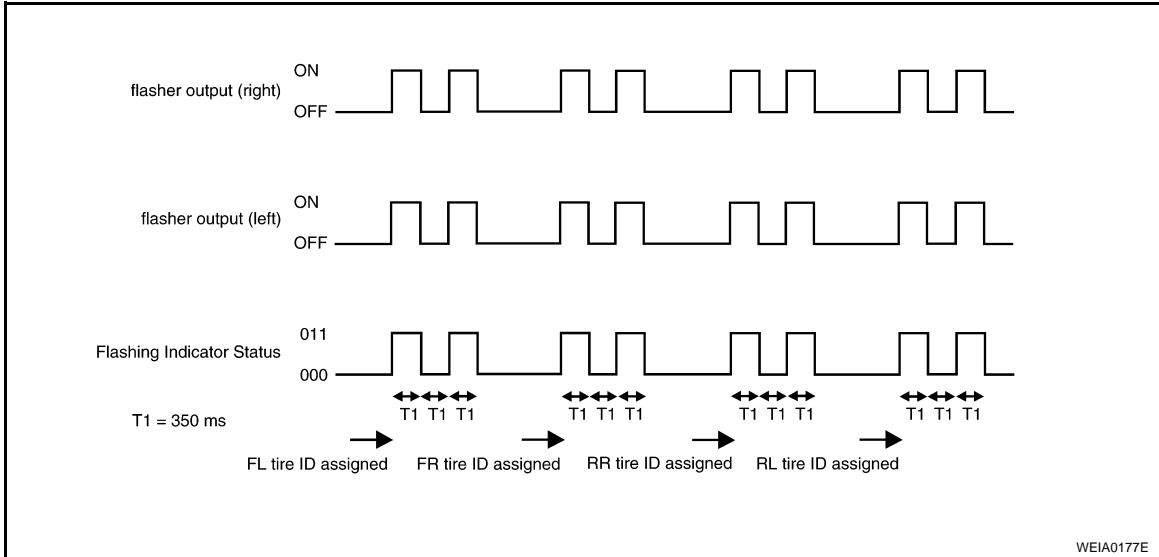
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2. Repeat this procedure for each tire in the following order: FL, FR, RR, RL.

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

- When the BCM finishes assigning each tire ID, the BCM flashes the hazard warning lamps and sends flashing indicator status by CAN according to the following time chart.



- After completing wake up of all transmitters, make sure low tire pressure warning lamp goes out.

## ID Registration Procedure

INFOID:000000001277803

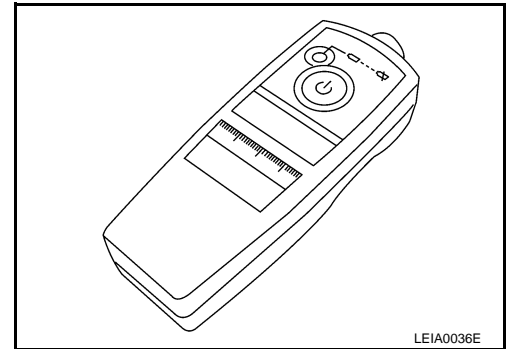
### ID REGISTRATION WITH TRANSMITTER ACTIVATION TOOL

**NOTE:**

**This procedure must be done after replacement of a low tire pressure warning transmitter or BCM. New replacement transmitters are provided asleep and must first be woken up using Transmitter Activation Tool J-45295 before ID registration can be performed.**

- Connect CONSULT-III.
- Select ID REGIST under BCM.
- Push the transmitter activation tool against the tire near the front left transmitter. Press the button for 5 seconds.

**Tool number : (J-45295)**



- Register the IDs in order from FR LH, FR RH, RR RH and RR LH. When ID registration of each wheel has been completed, the hazard warning lamps flash.

| Step | Activation tire position | Hazard warning lamp | CONSULT-III      |
|------|--------------------------|---------------------|------------------|
| 1    | Front LH                 | 2 times flashing    | YET<br>↓<br>DONE |
| 2    | Front RH                 |                     |                  |
| 3    | Rear RH                  |                     |                  |
| 4    | Rear LH                  |                     |                  |

- After completing all ID registrations, press END to complete the procedure.

**NOTE:**

Be sure to register all of the IDs in order from FR LH, FR RH, RR RH, to RR LH, or the self-diagnostic results display will not function properly.

### ID REGISTRATION WITHOUT TRANSMITTER ACTIVATION TOOL

**NOTE:**

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

**This procedure must be done after replacement of a low tire pressure warning transmitter or BCM. New replacement transmitters are provided asleep and must first be woken up using Transmitter Activation Tool J-45295 before ID registration can be performed.**

1. Connect CONSULT-III.
2. Select ID REGIST under BCM.
3. Adjust the tire pressures to the values shown in the table and drive the vehicle at 40 km/h (25 MPH) or more for a few minutes.

| Tire position | Tire pressure kPa (kg/cm <sup>2</sup> , psi) |
|---------------|--|
| Front LH      | 250 (2.5, 36)                                |
| Front RH      | 230 (2.3, 33)                                |
| Rear RH       | 210 (2.1, 30)                                |
| Rear LH       | 190 (1.9, 27)                                |

4. After completing all ID registrations, press END to complete the procedure.

| Activation tire position | CONSULT-III      |
|--------------------------|------------------|
| Front LH                 | YET<br>↓<br>DONE |
| Front RH                 |                  |
| Rear RH                  |                  |
| Rear LH                  |                  |

5. Inflate all tires to proper pressure. Refer to [WT-40, "Tire"](#).

# TPMS

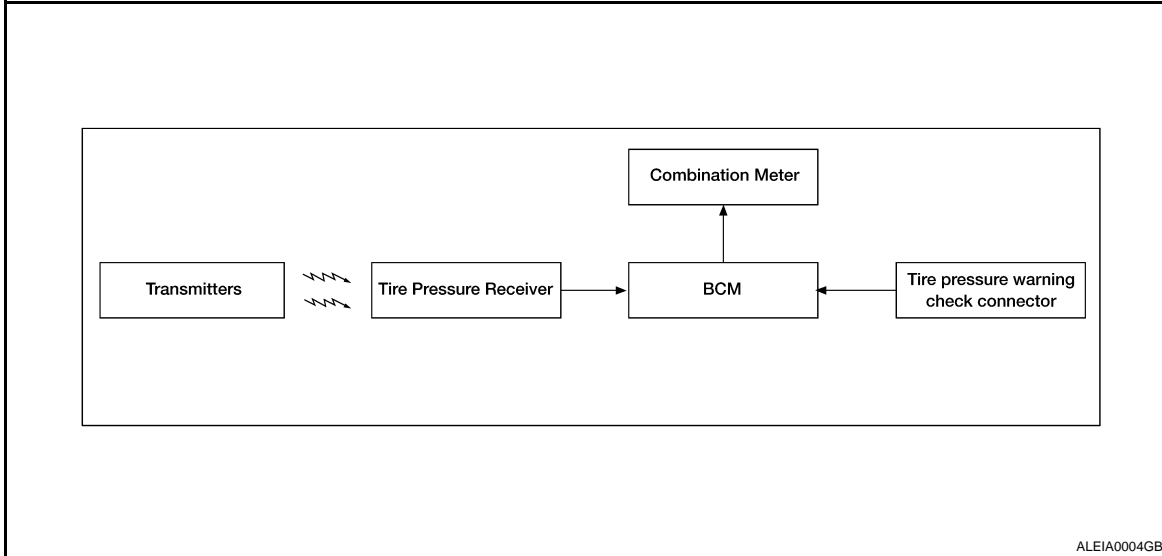
< FUNCTION DIAGNOSIS >

## FUNCTION DIAGNOSIS

### TPMS

#### System Diagram

INFOID:000000001277804

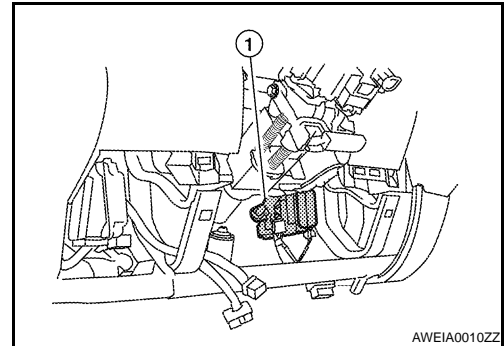


#### System Description

INFOID:000000001277829

#### BODY CONTROL MODULE (BCM)

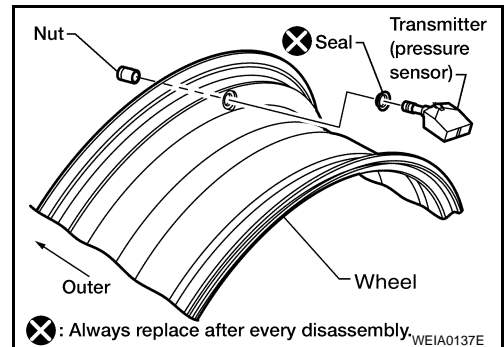
The BCM (1) is shown with the lower instrument panel LH removed. The BCM reads the air pressure signal received by the remote keyless entry receiver, and controls the low tire pressure warning lamp as shown below. It also has a self-diagnosis function to detect a system malfunction.



| Condition   | Low tire pressure warning lamp                                    |
|---|---|
| System normal   | On for 1 second after ignition ON                                 |
| Tire less than 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi)<br>[Flat tire] | ON  |
| Low tire pressure warning system malfunction                            | After key ON, flashes once per second for 1 minute, then stays ON |

#### TRANSMITTER

A sensor-transmitter integrated with a valve is installed in each wheel, and transmits a detected air pressure signal in the form of a radio wave. The radio signal is received by the remote keyless entry receiver.



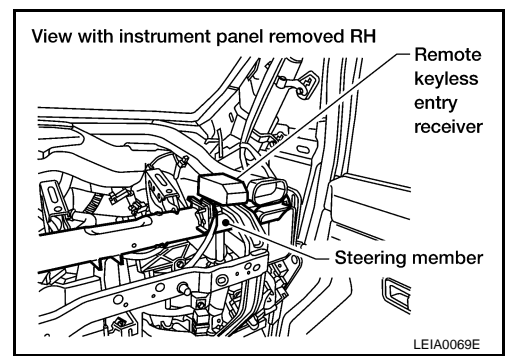
#### REMOTE KEYLESS ENTRY RECEIVER



# TPMS

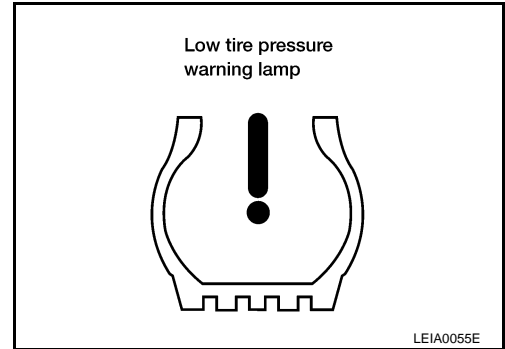
## < FUNCTION DIAGNOSIS >

The remote keyless entry receiver is shown with the instrument panel RH removed. The remote keyless entry receiver receives the air pressure signal transmitted by the transmitter in each wheel.



## COMBINATION METER

The combination meter receives tire pressure status from the BCM using CAN communication. When a low tire pressure condition is sensed by the BCM, the combination meter low tire pressure warning lamp is activated.



## TIRE PRESSURE WARNING CHECK CONNECTOR

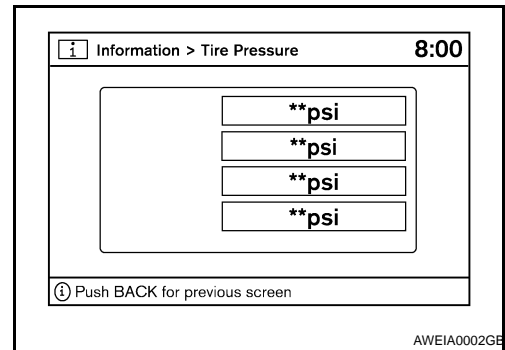
The tire pressure warning check connector can be grounded in order to initiate self-diagnosis without a CONSULT-III. The tire pressure warning check connector is located behind the lower portion of the instrument panel LH. Refer to XX-XX, \*\*\*\*\*.

## DISPLAY UNIT (with BOSE™ audio system)

Displays the air pressure of each tire.

### NOTE:

After the ignition switch is turned on, the pressure values will not be displayed until the data of each wheel is received.

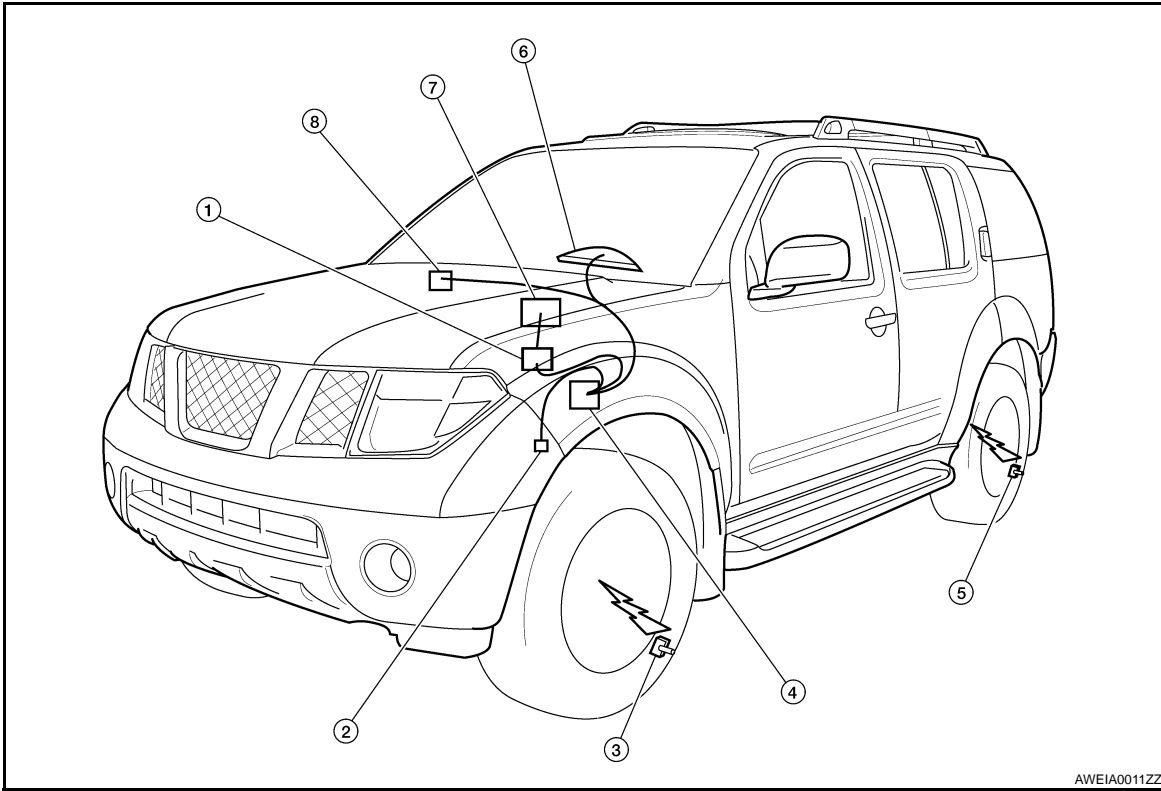


# TPMS

< FUNCTION DIAGNOSIS >

## System Component

INFOID:000000001277830



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- |  |  |                             |
|--|--|-----------------------------|
| 1. AV control unit<br>(With BOSE audio system) | 2. Tire pressure warning check connector<br>M123 | 3. Transmitter              |
| 4. BCM<br>M18, M20                             | 5. Transmitter                                   | 6. Combination meter<br>M24 |
| 7. Display unit<br>(With BOSE audio system)    | 8. Remote keyless entry receiver<br>M120         |                             |

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

## DIAGNOSIS SYSTEM (BCM)

### CONSULT-III Function (BCM)

INFOID:000000001277807

CONSULT-III can display each diagnostic item using the diagnostic test modes shown following.

| BCM diagnostic test item | Diagnostic mode       | Description  |
|--------------------------|-----------------------|--|
| Inspection by part       | WORK SUPPORT          | Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed. |
|                          | DATA MONITOR          | Displays BCM input/output data in real time.   |
|                          | ACTIVE TEST           | Operation of electrical loads can be checked by sending drive signal to them.  |
|                          | SELF-DIAG RESULTS     | Displays BCM self-diagnosis results.   |
|                          | CAN DIAG SUPPORT MNTR | The result of transmit/receive diagnosis of CAN communication can be read.   |
|                          | ECU PART NUMBER       | BCM part number can be read.   |
|                          | CONFIGURATION         | Performs BCM configuration read/write functions.   |

### Self-Diagnosis

INFOID:000000001277808

#### DESCRIPTION

During driving, the tire pressure monitoring system receives the signal transmitted from the transmitter installed in each wheel, and turns on the low tire pressure warning lamp when the tire pressure becomes low. The control unit (BCM) for this system has pressure judgement and self-diagnosis functions.

#### FUNCTION

When the tire pressure monitoring system detects low inflation pressure or an internal malfunction, the low tire pressure warning lamp in the combination meter comes on. The malfunction is indicated by the low tire pressure warning lamp flashing.

#### CONSULT-III Application to Tire Pressure Monitoring System

| ITEM                      | SELF-DIAGNOSTIC RESULTS | DATA MONITOR |
|---------------------------|-------------------------|--------------|
| Front - Left transmitter  | ×                       | ×            |
| Front - Right transmitter | ×                       | ×            |
| Rear - Left transmitter   | ×                       | ×            |
| Rear - Right transmitter  | ×                       | ×            |
| Warning lamp              | —                       | ×            |
| Vehicle speed             | ×                       | ×            |
| CAN Communication         | ×                       | ×            |

× : Applicable

— : Not applicable

#### Data Monitor Mode

| MONITOR  | CONDITION  | SPECIFICATION               |
|--|--|-----------------------------|
| VHCL SPEED   | Drive vehicle.   | Vehicle speed (km/h or MPH) |
| AIR PRESS FL<br>AIR PRESS FR<br>AIR PRESS RR<br>AIR PRESS RL | <ul style="list-style-type: none"> <li>Drive vehicle for a few minutes.</li> </ul> or <ul style="list-style-type: none"> <li>Ignition switch ON and activation tool is transmitting activation signals.</li> </ul> | Tire pressure (kPa or psi)  |

## DIAGNOSIS SYSTEM (BCM)

### < FUNCTION DIAGNOSIS >

| MONITOR  | CONDITION          | SPECIFICATION  |
|--|--------------------|--|
| ID REGST FL1<br>ID REGST FR1<br>ID REGST RR1<br>ID REGST RL1 | Ignition switch ON | ID not registered: YET<br>ID registered: DONE                                    |
| WARNING LAMP   |                    | Low tire pressure warning lamp on: ON<br>Low tire pressure warning lamp off: OFF |

**NOTE:**

Before performing the self-diagnosis, be sure to register the ID, or the actual malfunction location may be different from that displayed on CONSULT-III.

# C1708 - C1711 DATA FROM TRANSMITTER NOT BEING RECEIVED

< COMPONENT DIAGNOSIS >

## COMPONENT DIAGNOSIS

### C1708 - C1711 DATA FROM TRANSMITTER NOT BEING RECEIVED

#### Description

INFOID:0000000001277921

Tire pressure data for one or more transmitters is not being received by the BCM.

#### DTC Logic

INFOID:0000000001277922

#### DTC DETECTION LOGIC

| DTC   | CONSULT-III      | DTC detecting condition                      |
|-------|------------------|--|
| C1708 | [NO - DATA] - FL | Data from FL transmitter cannot be received. |
| C1709 | [NO - DATA] - FR | Data from FR transmitter cannot be received. |
| C1710 | [NO - DATA] - RR | Data from RR transmitter cannot be received. |
| C1711 | [NO - DATA] - RL | Data from RL transmitter cannot be received. |

#### DTC CONFIRMATION PROCEDURE

##### 1. ID REGISTRATION AND VEHICLE DRIVING

1. Carry out ID registration of all transmitters.
2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
3. Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

- YES >> Inspection End.  
NO >> Refer to [WT-13, "Data from Transmitter Not Being Received"](#).

#### Data from Transmitter Not Being Received

INFOID:0000000001277809

MALFUNCTION CODE NO. 21, 22, 23 or 24

##### 1. CHECK BCM

Drive for several minutes. Check all tire pressures with CONSULT-III.

Are all tire pressures displayed as 0 kPa?

- YES >> GO TO 2  
NO >> GO TO 3

##### 2. CHECK TIRE PRESSURE RECEIVER CONNECTOR

Check tire pressure receiver connector for damage or loose connection.

Is tire pressure receiver connector damaged or loose?

- YES >> Repair or replace tire pressure receiver connector.  
NO >> Replace BCM, then GO TO 3. Refer to [BCS-54, "Removal and Installation"](#).

##### 3. PERFORM ID REGISTRATION

Carry out ID registration of all transmitters. Refer to [WT-6, "ID Registration Procedure"](#).

Is there a tire that cannot register ID?

- YES >> Replace malfunctioning transmitter, then GO TO 5. Refer to [WT-38, "Transmitter \(Pressure Sensor\)"](#).  
NO >> GO TO 4

##### 4. DRIVE VEHICLE

1. Drive at a speed of 40 km/h (25 MPH) or more for several minutes without stopping.
2. Check all tire pressures with CONSULT-III within 15 minutes after vehicle speed becomes 17 km/h (11 MPH).

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

## C1708 - C1711 DATA FROM TRANSMITTER NOT BEING RECEIVED

### < COMPONENT DIAGNOSIS >

---

YES >> Inspection End.  
NO >> GO TO 5

### 5.ID REGISTRATION AND VEHICLE DRIVING

---

1. Carry out ID registration of all transmitters.
2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
3. Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

YES >> Inspection End.  
NO >> Proceed to the inspection applicable to DTC.

### Special Repair Requirement

INFOID:000000001277923

Perform preliminary check. Refer to [WT-5. "Preliminary Check"](#).

# C1712 - C1715, C1720 - C1723, C1724 - C1727 TRANSMITTER MALFUNCTION

< COMPONENT DIAGNOSIS >

## C1712 - C1715, C1720 - C1723, C1724 - C1727 TRANSMITTER MALFUNCTION

### Description

INFOID:000000001277924

One or more transmitters are malfunctioning internally.

### DTC Logic

INFOID:000000001277925

### DTC DETECTION LOGIC

| DTC   | CONSULT-III              | DTC detecting condition                                   |
|-------|--------------------------|---|
| C1712 | [CHECKSUM - ERR] - FL    | Checksum data from FL transmitter is malfunctioning.      |
| C1713 | [CHECKSUM - ERR] - FR    | Checksum data from FR transmitter is malfunctioning.      |
| C1714 | [CHECKSUM - ERR] - RR    | Checksum data from RR transmitter is malfunctioning.      |
| C1715 | [CHECKSUM - ERR] - RL    | Checksum data from RL transmitter is malfunctioning.      |
| C1720 | [CODE - ERR] - FL        | Function code data from FL transmitter is malfunctioning. |
| C1721 | [CODE - ERR] - FR        | Function code data from FR transmitter is malfunctioning. |
| C1722 | [CODE - ERR] - RR        | Function code data from RR transmitter is malfunctioning. |
| C1723 | [CODE - ERR] - RL        | Function code data from RL transmitter is malfunctioning. |
| C1724 | [BATT - VOLT - LOW] - FL | Battery voltage of FL transmitter drops.                  |
| C1725 | [BATT - VOLT - LOW] - FR | Battery voltage of FR transmitter drops.                  |
| C1726 | [BATT - VOLT - LOW] - RR | Battery voltage of RR transmitter drops.                  |
| C1727 | [BATT - VOLT - LOW] - RL | Battery voltage of RL transmitter drops.                  |

### DTC CONFIRMATION PROCEDURE

#### 1. DRIVE VEHICLE

1. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
2. Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

- YES >> Inspection End.  
NO >> Refer to [WT-15. "Transmitter Malfunction"](#).

### Transmitter Malfunction

INFOID:000000001277810

MALFUNCTION CODE NO. 31 - 34, 41 - 44, 45 - 48

#### 1. PERFORM ID REGISTRATION

1. Carry out ID registration of all transmitters. Refer to [WT-6. "ID Registration Procedure"](#).
2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.

>> GO TO 2

#### 2. REPLACE TRANSMITTER

1. Check low tire pressure warning lamp again for flashing, replace malfunctioning transmitter. Refer to [WT-38. "Transmitter \(Pressure Sensor\)"](#).
2. Carry out ID registration of all transmitters.

Can ID registration of all transmitters be completed?

- YES >> GO TO 3  
NO >> GO TO [WT-13. "Data from Transmitter Not Being Received"](#).

#### 3. DRIVE VEHICLE

## **C1712 - C1715, C1720 - C1723, C1724 - C1727 TRANSMITTER MALFUNCTION**

### **< COMPONENT DIAGNOSIS >**

---

1. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
2. Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

YES >> Inspection End.

NO >> Replace malfunctioning transmitter, and perform Step 3 again.

### **Special Repair Requirement**

INFOID:000000001277926

Perform preliminary check. Refer to [WT-5, "Preliminary Check"](#).



# C1716 - C1719 TRANSMITTER PRESSURE MALFUNCTION

< COMPONENT DIAGNOSIS >

## C1716 - C1719 TRANSMITTER PRESSURE MALFUNCTION

### Description

INFOID:000000001277927

Air pressure data from one or more transmitters is out of range.

### DTC Logic

INFOID:000000001277928

### DTC DETECTION LOGIC

| DTC   | CONSULT - III        | DTC detecting condition                                  |
|-------|----------------------|--|
| C1716 | [PRESSDATA - ERR] FL | Air pressure data from FL transmitter is malfunctioning. |
| C1717 | [PRESSDATA - ERR] FR | Air pressure data from FR transmitter is malfunctioning. |
| C1718 | [PRESSDATA - ERR] RR | Air pressure data from RR transmitter is malfunctioning. |
| C1719 | [PRESSDATA - ERR] RL | Air pressure data from RL transmitter is malfunctioning. |

### DTC CONFIRMATION PROCEDURE

#### 1.ID REGISTRATION AND VEHICLE DRIVING

1. Carry out ID registration of all transmitters.
2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
3. Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

- YES >> Inspection End.  
NO >> Refer to [WT-17. "Transmitter Pressure Malfunction"](#).

### Transmitter Pressure Malfunction

INFOID:000000001277811

### MALFUNCTION CODE NO. 35 - 38

#### 1.CHECK ALL TIRE PRESSURES

Check all tire pressures. Refer to [WT-40. "Tire"](#).

Are there any tires with pressure of 64 psi or more?

- YES >> Adjust tire pressure to specified value.  
NO >> GO TO 2

#### 2.ID REGISTRATION AND VEHICLE DRIVING

1. Carry out ID registration of all transmitters. Refer to [WT-6. "ID Registration Procedure"](#).
2. Drive at a speed of 40 km/h (25 MPH) or more for several minutes without stopping.
3. Check all tire pressures with CONSULT-III within 15 minutes after vehicle speed becomes 17 km/h (11 MPH).

Does DATA MONITOR ITEM display 64 psi or more?

- YES >> Replace transmitter. Refer to [WT-38. "Transmitter \(Pressure Sensor\)"](#). GO TO 3.  
NO >> GO TO 3

#### 3.ID REGISTRATION AND VEHICLE DRIVING

1. Carry out ID registration of all transmitters.
2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
3. Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

- YES >> Inspection End.  
NO >> Proceed to the inspection applicable to DTC.

### Special Repair Requirement

INFOID:000000001277929

Perform preliminary check. Refer to [WT-5. "Preliminary Check"](#).

# C1729 VEHICLE SPEED SIGNAL

< COMPONENT DIAGNOSIS >

## C1729 VEHICLE SPEED SIGNAL

### Description

INFOID:000000001277930

The vehicle speed signal is not being detected by the BCM.

### DTC Logic

INFOID:000000001277931

### DTC DETECTION LOGIC

| DTC   | CONSULT - III      | DTC detecting condition           |
|-------|--------------------|-----------------------------------|
| C1729 | VHCL SPEED SIG ERR | Vehicle speed signal is in error. |

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK SELF-DIAGNOSTIC RESULTS

1. On SELECT DIAG MODE, select the SELF-DIAG RESULT screen.
2. Check display contents on SELF DIAG RESULT screen.

Is the CAN COMM CIRCUIT displayed in the self-diagnosis display?

YES >> Refer to [WT-18, "Vehicle Speed Signal"](#).

NO >> Inspection end.

### Vehicle Speed Signal

INFOID:000000001277812

### MALFUNCTION CODE NO. 52

#### 1. CHECK SELF-DIAGNOSTIC RESULTS

1. On SELECT DIAG MODE, select the SELF-DIAG RESULT screen.
2. Check display contents on SELF DIAG RESULT screen.

Is the CAN COMM CIRCUIT displayed in the self-diagnosis display?

YES >> Perform trouble diagnosis for CAN communication system. Refer to XX-XX, \*\*\*\*\*.

NO >> Check combination meter. Refer to XX-XX, \*\*\*\*\*.



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

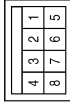
## TIRE PRESSURE MONITORING SYSTEM CONNECTORS

|                 |                  |
|-----------------|------------------|
| Connector No.   | M4               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5P           | W/G           | -           |
| 15P          | W/R           | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M6           |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



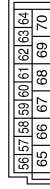
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | W             | -           |

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | M18                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | WHITE                     |



| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 15           | W             | P/WARN CHECK   |
| 18           | BR            | TUNER SENS GND |
| 19           | V             | PWR            |
| 20           | G             | SIGNAL         |
| 38           | W/R           | IGN SW         |
| 39           | L             | CAN-H          |
| 40           | P             | CAN-L          |

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | M20                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK                     |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 67           | B             | GND         |
| 70           | W             | BAT (F/L)   |

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# BCM (BODY CONTROL MODULE)

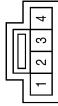
< ECU DIAGNOSIS >

|                 |                                       |
|-----------------|---------------------------------------|
| Connector No.   | M123                                  |
| Connector Name  | TIRE PRESSURE WARNING CHECK CONNECTOR |
| Connector Color | WHITE                                 |



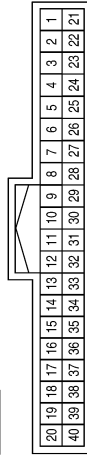
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | LOW_TIRE    |

|                 |                               |
|-----------------|-------------------------------|
| Connector No.   | M120                          |
| Connector Name  | REMOTE KEYLESS ENTRY RECEIVER |
| Connector Color | WHITE                         |



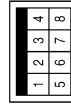
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | BR            | GND         |
| 2            | G             | SIGNAL      |
| 4            | V             | PWR         |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | M24               |
| Connector Name  | COMBINATION METER |
| Connector Color | WHITE             |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11           | P             | -           |
| 12           | L             | -           |
| 13           | GR            | -           |
| 16           | W/G           | -           |
| 23           | B             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E10          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | W             | -           |

Self-Diagnosis

FUNCTION

Self-Diagnostic Results Mode

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ALEIA0016GB

INFOID:000000001277816

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

| Diagnostic item  | Diagnostic item is detected when ...   | Reference page        |
|--|--|-----------------------|
| LOW - PRESSURE - FL [C1704]<br>LOW - PRESSURE - FR [C1705]<br>LOW - PRESSURE - RR [C1706]<br>LOW - PRESSURE - RL [C1707]                     | Tire pressures dropped below specified value. Refer to <a href="#">WT-8</a> , " <a href="#">System Description</a> ".  | —                     |
| [NO-DATA] - FL [C1708]<br>[NO-DATA] - FR [C1709]<br>[NO-DATA] - RR [C1710]<br>[NO-DATA] - RL [C1711]   | Data from FL transmitter cannot be received.<br>Data from FR transmitter cannot be received.<br>Data from RR transmitter cannot be received.<br>Data from RL transmitter cannot be received.   | <a href="#">WT-13</a> |
| [CHECKSUM- ERR] - FL [C1712]<br>[CHECKSUM- ERR] - FR [C1713]<br>[CHECKSUM- ERR] - RR [C1714]<br>[CHECKSUM- ERR] - RL [C1715]                 | Checksum data from FL transmitter is malfunctioning.<br>Checksum data from FR transmitter is malfunctioning.<br>Checksum data from RR transmitter is malfunctioning.<br>Checksum data from RL transmitter is malfunctioning.                     | <a href="#">WT-15</a> |
| [PRESSDATA- ERR] - FL [C1716]<br>[PRESSDATA- ERR] - FR [C1717]<br>[PRESSDATA- ERR] - RR [C1718]<br>[PRESSDATA- ERR] - RL [C1719]             | Air pressure data from FL transmitter is malfunctioning.<br>Air pressure data from FR transmitter is malfunctioning.<br>Air pressure data from RR transmitter is malfunctioning.<br>Air pressure data from RL transmitter is malfunctioning.     | <a href="#">WT-17</a> |
| [CODE- ERR] - FL [C1720]<br>[CODE- ERR] - FR [C1721]<br>[CODE- ERR] - RR [C1722]<br>[CODE- ERR] - RL [C1723]                                 | Function code data from FL transmitter is malfunctioning.<br>Function code data from FR transmitter is malfunctioning.<br>Function code data from RR transmitter is malfunctioning.<br>Function code data from RL transmitter is malfunctioning. | <a href="#">WT-15</a> |
| [BATT - VOLT - LOW] - FL [C1724]<br>[BATT - VOLT - LOW] - FR [C1725]<br>[BATT - VOLT - LOW] - RR [C1726]<br>[BATT - VOLT - LOW] - RL [C1727] | Battery voltage of FL transmitter drops.<br>Battery voltage of FR transmitter drops.<br>Battery voltage of RR transmitter drops.<br>Battery voltage of RL transmitter drops.   | <a href="#">WT-15</a> |
| VHCL_SPEED_SIG_ERR [C1729]   | Vehicle speed signal is in error.  | <a href="#">WT-18</a> |

### NOTE:

Before performing the self-diagnosis, be sure to register the ID or else the actual malfunction location may be different from that displayed on CONSULT-III.

## Flash Code Chart

INFOID:000000001277817

### NOTE:

Ground tire pressure warning check connector to initiate self-diagnosis w/o CONSULT-III.

| Flash Code           | Malfunction part   | Reference page        |
|----------------------|--|-----------------------|
| 15<br>16<br>17<br>18 | Tire pressure dropped below specified value. Refer to <a href="#">WT-8</a> , " <a href="#">System Description</a> ".   | —                     |
| 21<br>22<br>23<br>24 | Transmitter no data (FL)<br>Transmitter no data (FR)<br>Transmitter no data (RR)<br>Transmitter no data (RL)   | <a href="#">WT-13</a> |
| 31<br>32<br>33<br>34 | Transmitter checksum error (FL)<br>Transmitter checksum error (FR)<br>Transmitter checksum error (RR)<br>Transmitter checksum error (RL)                     | <a href="#">WT-15</a> |
| 35<br>36<br>37<br>38 | Transmitter pressure data error (FL)<br>Transmitter pressure data error (FR)<br>Transmitter pressure data error (RR)<br>Transmitter pressure data error (RL) | <a href="#">WT-17</a> |
| 41<br>42<br>43<br>44 | Transmitter function code error (FL)<br>Transmitter function code error (FR)<br>Transmitter function code error (RR)<br>Transmitter function code error (RL) | <a href="#">WT-15</a> |

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

| Flash Code | Malfunction part                     | Reference page        |
|------------|--------------------------------------|-----------------------|
| 45         | Transmitter battery voltage low (FL) | <a href="#">WT-15</a> |
| 46         | Transmitter battery voltage low (FR) |                       |
| 47         | Transmitter battery voltage low (RR) |                       |
| 48         | Transmitter battery voltage low (RL) |                       |
| 52         | Vehicle speed signal                 | <a href="#">WT-18</a> |

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# TPMS

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### TPMS

#### Symptom Table

INFOID:000000001277818

| Symptom  | Reference             |
|--|-----------------------|
| Low tire pressure warning lamp does not come on when ignition switch is turned on. | <a href="#">WT-25</a> |
| Low tire pressure warning lamp stays on when ignition switch is turned on.         | <a href="#">WT-26</a> |
| Low tire pressure warning lamp flashes when ignition switch is turned on.          | <a href="#">WT-27</a> |
| Hazard warning lamps flash when ignition switch is turned on.                      | <a href="#">WT-28</a> |
| Tire pressure information in display unit does not exist.                          | <a href="#">WT-28</a> |
| ID registration cannot be completed.   | <a href="#">WT-30</a> |



# LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

---

## LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON

Low Tire Pressure Warning Lamp Does Not Come On When Ignition Switch Is Turned On

INFOID:000000001277819

### DIAGNOSTIC PROCEDURE

#### 1. SELF-DIAGNOSTIC RESULT CHECK

---

Using CONSULT-III, check display contents of BCM in SELF-DIAGNOSIS.

Is CAN COMM CIRCUIT displayed in the self-diagnosis display items?

- YES >> Malfunction in CAN communication system.
- NO >> GO TO 2

#### 2. CHECK COMBINATION METER

---

Check combination meter operation. Refer to [MWI-24, "CONSULT-III Function \(METER/M&A\)"](#).

Inspection results OK?

- YES >> GO TO 3
- NO >> Replace combination meter. Refer to [MWI-94, "Removal and Installation"](#).

#### 3. CHECK LOW TIRE PRESSURE WARNING LAMP

---

Disconnect BCM harness connector.

Does the low tire pressure warning lamp activate?

- YES >> Replace BCM. Refer to [BCS-54, "Removal and Installation"](#).
- NO >> Check combination meter operation.

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WT

# LOW TIRE PRESSURE WARNING LAMP STAYS ON

< SYMPTOM DIAGNOSIS >

---

## LOW TIRE PRESSURE WARNING LAMP STAYS ON

Low Tire Pressure Warning Lamp Stays On When Ignition Switch Is Turned On

INFOID:000000001277820

### DIAGNOSTIC PROCEDURE

#### 1. BCM CONNECTORS

---

1. Turn ignition switch OFF.
2. Disconnect BCM harness connectors.
3. Check terminals for damage or loose connections.

Are any of the BCM connectors loose or damaged?

- YES >> Repair or replace damaged parts.  
NO >> GO TO 2

#### 2. BCM POWER SUPPLY AND GROUND CIRCUITS

---

Check BCM power supply and ground circuits. Refer to [BCS-32. "Diagnosis Procedure"](#).

Are the BCM power supply and ground circuits OK?

- YES >> Replace BCM. Refer to [BCS-54. "Removal and Installation"](#).  
NO >> Repair BCM circuits.

# LOW TIRE PRESSURE WARNING LAMP BLINKS

< SYMPTOM DIAGNOSIS >

## LOW TIRE PRESSURE WARNING LAMP BLINKS

Low Tire Pressure Warning Lamp Flashes When Ignition Switch Is Turned On

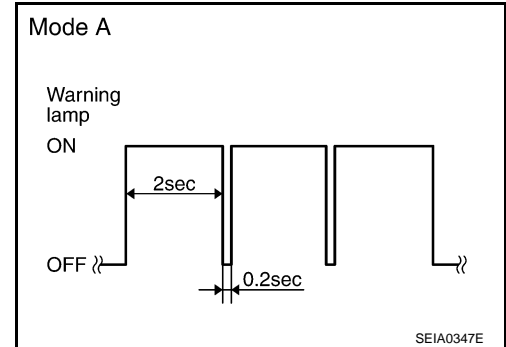
INFOID:000000001277821

### NOTE:

If low tire pressure warning lamp flashes as shown, the system is normal.

Flash Mode A

- This mode shows transmitter status is OFF-mode.  
Carry out transmitter wake up operation. Refer to [WT-5, "Transmitter Wake Up Operation"](#).



### DIAGNOSTIC PROCEDURE

#### 1. CHECK BCM CONNECTORS

1. Turn ignition switch OFF.
2. Disconnect BCM harness connectors.
3. Check terminals for damage or loose connections.

#### Inspection results OK?

YES >> GO TO 2

NO >> Repair or replace damaged parts.

#### 2. CHECK TIRE PRESSURE WARNING CHECK CONNECTOR CIRCUIT

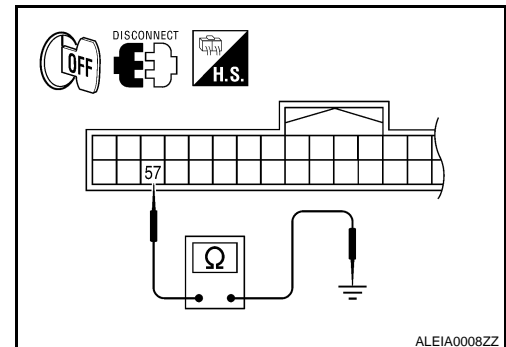
Check continuity between BCM harness connector M18 terminal 57 and ground.

**Continuity should not exist.**

#### Does continuity exist?

YES >> Repair circuit for short to ground.

NO >> Replace BCM. Refer to [BCS-54, "Removal and Installation"](#).



## HAZARD WARNING LAMPS FLASH

< SYMPTOM DIAGNOSIS >

---

### HAZARD WARNING LAMPS FLASH

Hazard Warning Lamps Flash When Ignition Switch Is Turned On

INFOID:000000001277822

DIAGNOSTIC PROCEDURE

#### 1. CHECK BCM GROUND CIRCUIT

---

Check BCM ground circuit. Refer to [BCS-32, "Diagnosis Procedure"](#).

Is BCM ground circuit OK?

- YES >> Replace BCM. Refer to [BCS-54, "Removal and Installation"](#).
- NO >> Repair BCM ground circuit.

# "TIRE PRESSURE" INFORMATION IN DISPLAY UNIT DOES NOT EXIST

< SYMPTOM DIAGNOSIS >

## "TIRE PRESSURE" INFORMATION IN DISPLAY UNIT DOES NOT EXIST

"TIRE PRESSURE" Information in Display Unit Does Not Exist

INFOID:000000001277831

### DIAGNOSTIC PROCEDURE

#### 1.SELF-DIAGNOSTIC RESULT CHECK

Using CONSULT-III, check display contents in self-diagnostic results.

Is CAN COMM CIRCUIT displayed in the self-diagnosis display items?

YES >> Malfunction in CAN communication system.

NO >> GO TO 2.

#### 2.CHECK DISPLAY UNIT

Perform AV unit self-diagnosis. Refer to [AV-306. "AV CONTROL UNIT : CONSULT-III Function"](#).

Inspection results OK?

OK >> Replace BCM. Refer to [BCS-54. "Removal and Installation"](#).

NG >> Repair or replace malfunctioning parts.

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## ID REGISTRATION CANNOT BE COMPLETED

< SYMPTOM DIAGNOSIS >

---

### ID REGISTRATION CANNOT BE COMPLETED

ID Registration Cannot Be Completed

INFOID:000000001277823

DIAGNOSTIC PROCEDURE

#### **1.**PERFORM ID REGISTRATION OF ALL TRANSMITTERS

---

Carry out ID registration of all transmitters. Refer to [WT-6, "ID Registration Procedure"](#).

Can ID registration of all transmitters be completed?

YES >> Inspection End.

NO >> GO TO [WT-13, "Data from Transmitter Not Being Received"](#).

# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS

#### Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000001277825

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

#### Precaution for work

INFOID:000000001277826

- After removing and installing the opening/closing parts, be sure to carry out fitting adjustments to check their operation.
- Check the lubrication level, damage, and wear of each part. If necessary, grease or replace it.

# PREPARATION

< PREPARATION >

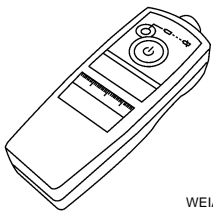
## PREPARATION

### PREPARATION

#### Special Service Tool

INFOID:000000001277827

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

| Tool number<br>(Kent-Moore No.)<br>Tool name   | Description   |
|--|---|
| <p data-bbox="162 499 422 583">KV991B1000<br/>(J-45295)<br/>Transmitter activation tool</p>  <p data-bbox="844 714 925 735">WEIA0144E</p> | <ul data-bbox="1006 499 1331 556" style="list-style-type: none"><li>• Transmitter wake up operation</li><li>• ID registration procedure</li></ul> |



# NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

#### NVH Troubleshooting Chart

INFOID:000000001675571

Use chart below to help you find the cause of the symptom. If necessary, repair or replace these parts.

| Symptom                       |            | Possible cause and SUSPECTED PARTS |           |                         |                  |                       |                |                     |                   |                  |                                 | Reference page                |       |            |       |          |   |   |
|-------------------------------|------------|------------------------------------|-----------|-------------------------|------------------|-----------------------|----------------|---------------------|-------------------|------------------|---------------------------------|-------------------------------|-------|------------|-------|----------|---|---|
|                               |            | Out-of-round                       | Imbalance | Incorrect tire pressure | Uneven tire wear | Deformation or damage | Non-uniformity | Incorrect tire size | FRONT FINAL DRIVE | REAR FINAL DRIVE | FRONT AXLE AND FRONT SUSPENSION | REAR AXLE AND REAR SUSPENSION | TIRES | ROAD WHEEL | BRAKE | STEERING |   |   |
| Noise                         | TIRES      | Noise                              | x         | x                       | x                | x                     | x              | x                   | x                 | x                | x                               | x                             | x     | x          | x     | x        | x | <a href="#">WT-34</a><br><a href="#">WT-35</a><br><a href="#">WT-40</a><br><a href="#">WT-36</a><br>—<br>—<br><a href="#">WT-40</a><br><a href="#">DLN-336, "NVH Troubleshooting Chart" (R180A),<br/>DLN-370, "NVH Troubleshooting Chart" (M205)</a><br><a href="#">DLN-402, "NVH Troubleshooting Chart" (R200),<br/>DLN-439, "NVH Troubleshooting Chart" (R230)</a><br><a href="#">FAX-4, "NVH Troubleshooting Chart" (FAX)<br/>FSU-4, "NVH Troubleshooting Chart" (FSU)</a><br><a href="#">RAX-4, "NVH Troubleshooting Chart" (RAX)<br/>RSU-4, "NVH Troubleshooting Chart" (RSU)</a><br>Refer to TIRES in this chart.<br>Refer to ROAD WHEEL in this chart.<br><a href="#">BR-5, "NVH Troubleshooting Chart"</a><br><a href="#">ST-9, "NVH Troubleshooting Chart"</a> |
|                               |            | Shake                              | x         | x                       | x                | x                     | x              | x                   | x                 | x                | x                               | x                             | x     | x          | x     | x        | x |   |
|                               |            | Vibration                          |           |                         | x                |                       |                |                     | x                 |                  |                                 | x                             | x     | x          |       |          | x |   |
|                               |            | Shimmy                             | x         | x                       | x                | x                     | x              | x                   | x                 |                  |                                 | x                             | x     | x          |       | x        | x |   |
|                               | ROAD WHEEL | Shudder                            | x         | x                       | x                | x                     | x              |                     | x                 |                  | x                               | x                             | x     |            | x     | x        | x |   |
|                               |            | Poor quality ride or handling      | x         | x                       | x                | x                     | x              |                     | x                 |                  | x                               | x                             | x     |            |       |          |   |   |
|                               |            | Noise                              | x         | x                       |                  |                       | x              |                     |                   | x                | x                               | x                             | x     |            | x     | x        | x |   |
|                               |            | Shake                              | x         | x                       |                  |                       | x              |                     |                   |                  | x                               | x                             |       |            | x     | x        | x |   |
| Shimmy, shudder               | ROAD WHEEL | Shimmy, shudder                    | x         | x                       |                  |                       | x              |                     |                   |                  | x                               | x                             |       | x          | x     | x        |   |   |
|                               |            | Poor quality ride or handling      | x         | x                       |                  |                       | x              |                     |                   |                  | x                               | x                             |       | x          |       |          |   |   |
|                               |            | Noise                              | x         | x                       |                  |                       | x              |                     |                   | x                | x                               | x                             |       | x          | x     | x        |   |   |
|                               |            | Shake                              | x         | x                       |                  |                       | x              |                     |                   |                  | x                               | x                             |       | x          | x     | x        |   |   |
| Poor quality ride or handling | ROAD WHEEL | Shimmy, shudder                    | x         | x                       |                  |                       | x              |                     |                   |                  | x                               | x                             |       | x          | x     | x        |   |   |
|                               |            | Poor quality ride or handling      | x         | x                       |                  |                       | x              |                     |                   |                  | x                               | x                             |       | x          |       |          |   |   |
|                               |            | Noise                              | x         | x                       |                  |                       | x              |                     |                   | x                | x                               | x                             |       | x          | x     | x        |   |   |
|                               |            | Shake                              | x         | x                       |                  |                       | x              |                     |                   |                  | x                               | x                             |       | x          | x     | x        |   |   |

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# WHEEL

< ON-VEHICLE MAINTENANCE >

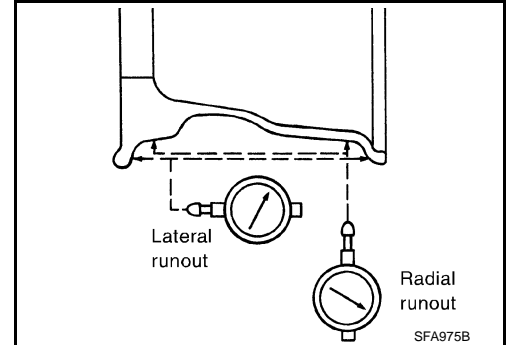
## ON-VEHICLE MAINTENANCE

### WHEEL

#### Inspection

INFOID:000000001675575

1. Remove wheel and tire using power tool.
2. Check tires for wear and improper inflation.
3. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.
  - a. Remove tire from wheel and mount wheel on a tire balance machine.
  - b. Set dial indicator as shown in the illustration. Refer to [WT-40, "Road Wheel"](#).
4. Check front wheel bearings for looseness.
5. Check front suspension for looseness.
6. Install wheel and tire. Refer to [WT-36, "Rotation"](#).



# WHEEL AND TIRE ASSEMBLY

< ON-VEHICLE REPAIR >

## ON-VEHICLE REPAIR

### WHEEL AND TIRE ASSEMBLY

#### Balancing Wheels

INFOID:000000001675576

#### WHEEL BALANCE REMOVAL

1. Remove wheel and tire using power tool.
2. Using releasing agent, remove double-faced adhesive tape from the wheel.

**CAUTION:**

- Be careful not to scratch the wheel during removal.
- After removing double-faced adhesive tape, wipe clean traces of releasing agent from the wheel.

#### WHEEL BALANCE INSTALLATION AND ADJUSTMENT

- If a tire balance machine has adhesion balance weight mode settings and drive-in weight mode setting, select and adjust a drive-in weight mode suitable for wheels.

1. Set wheel on wheel balancer using the center hole as a guide. Start the tire balance machine.
2. When inner and outer imbalance values are shown on the wheel balancer indicator, multiply outer imbalance value by 1.6 to determine balance weight that should be used. Select the outer balance weight with a value closest to the calculated value and install it to the designated outer position of, or at the designated angle in relation to the road wheel.

**CAUTION:**

- Do not install the inner balance weight before installing the outer balance weight.
- Before installing the balance weight, be sure to clean the mating surface of the wheel.

Indicated imbalance value  $\times 5/3 =$  balance weight to be installed

Calculation example:

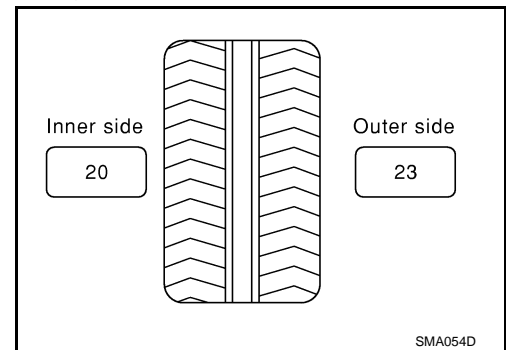
23 g (0.81 oz)  $\times 5/3 = 38.33$  g (1.35 oz) = 40 g (1.41 oz) balance weight (closer to calculated balance weight value)

Note that balance weight value must be closer to the calculated balance weight value.

Example:

37.4 g = 35 g (1.23 oz)

37.5 g = 40 g (1.41 oz)



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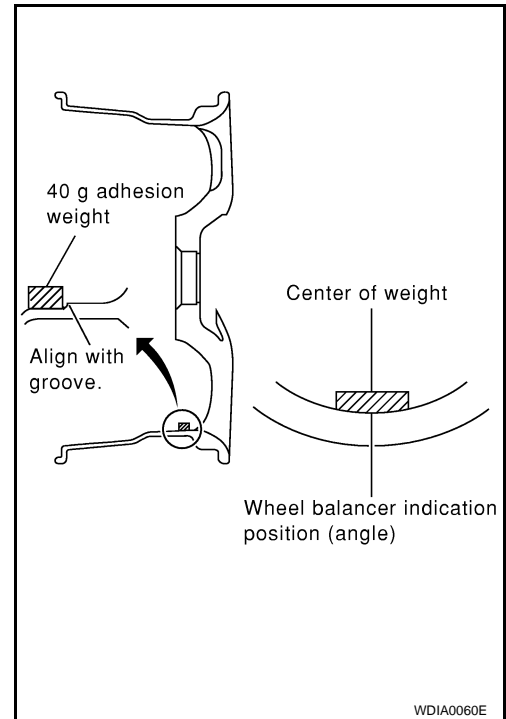
# WHEEL AND TIRE ASSEMBLY

## < ON-VEHICLE REPAIR >

- Install balance weight in the position shown.
- When installing balance weight to wheels, set it into the grooved area on the inner wall of the wheel as shown so that the balance weight center is aligned with the wheel balancer indication position (angle).

**CAUTION:**

- Always use Genuine NISSAN adhesion balance weights.
- Balance weights are not reusable; always replace with new ones.
- Do not install more than three sheets of balance weights.



- If calculated balance weight value exceeds 50 g (1.76 oz), install two balance weight sheets in line with each other as shown.

**CAUTION:**

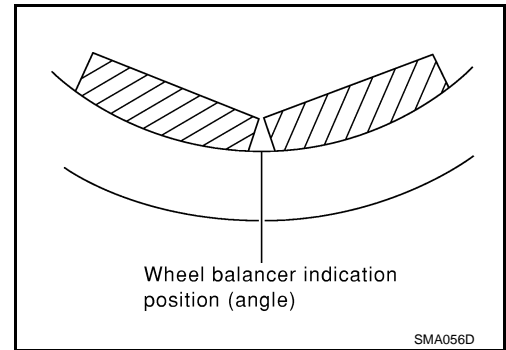
**Do not install one balance weight sheet on top of another.**

- Start wheel balancer again.
- Install drive-in balance weight on inner side of road wheel in the wheel balancer indication position (angle).

**CAUTION:**

**Do not install more than two balance weights.**

- Start wheel balancer. Make sure that inner and outer residual imbalance values are 5 g (0.18 oz) each or below.
  - If either residual imbalance value exceeds 5 g (0.18 oz), repeat installation procedures.



Wheel Balance (Maximum Allowable Imbalance)

|                             |                         |                          |
|-----------------------------|-------------------------|--------------------------|
| Maximum allowable imbalance | Dynamic (at rim flange) | 5 g (0.18 oz) (one side) |
|                             | Static                  | 10 g (0.35 oz)           |

## Rotation

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**NOTE:**

Follow the maintenance schedule for tire rotation service intervals. Refer to [MA-39, "Tire Rotation"](#).

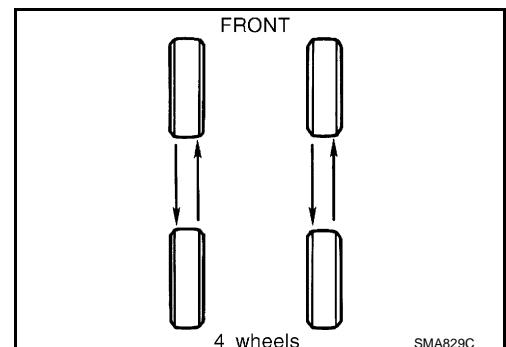
- Remove wheels and tires.
- Rotate wheels and tires on each side from front to back as shown. Do not include the spare wheel and tire when rotating the wheels and tires.

**Wheel nut : 133 N-m (14 kg-m, 98 ft-lb)**

**CAUTION:**

**When installing wheels and tires, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.**

- Adjust the tire pressure to specification. Refer to [WT-40, "Tire"](#).



# WHEEL AND TIRE ASSEMBLY

< ON-VEHICLE REPAIR >

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4. After the wheel and tire rotation, retighten the wheel nuts after the vehicle has been driven for 1,000 km (600 miles), and also after any wheel and tire has been installed, such as after repairing a flat tire.

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# REMOVAL AND INSTALLATION

< REMOVAL AND INSTALLATION >

## REMOVAL AND INSTALLATION

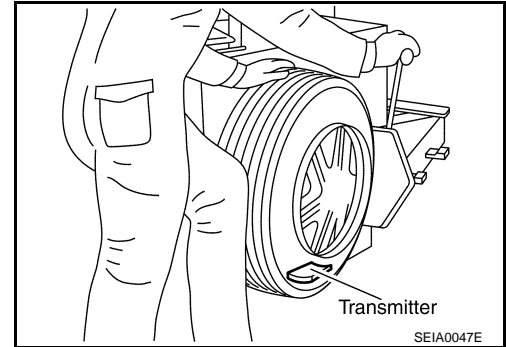
### REMOVAL AND INSTALLATION

#### Transmitter (Pressure Sensor)

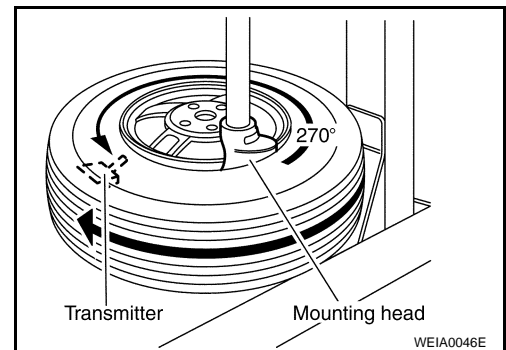
INFOID:000000001675572

#### REMOVAL

1. Remove wheel and tire using power tool.
2. Deflate tire. Unscrew transmitter retaining nut and allow transmitter to fall into tire.
3. Gently bounce tire so that transmitter falls to bottom of tire. Place wheel and tire assembly on tire changing machine and break both tire beads. Ensure that the transmitter remains at the bottom of the tire while breaking the bead.

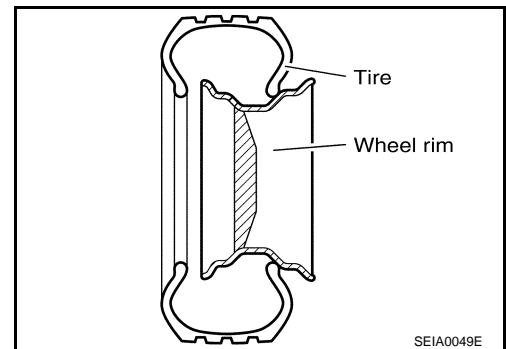


4. Turn tire so that valve hole is at bottom, and gently bounce the tire to ensure transmitter is near valve hole. Carefully lift tire onto turntable and position valve hole (and transmitter) 270 degrees from mounting/dismounting head.
5. Lubricate tire well, and remove top side of tire. Reach inside the tire and remove the transmitter.
6. Remove the second side of the tire as normal.



#### INSTALLATION

1. Place first side of tire onto rim.



2. Apply suitable silicone lubricant to new transmitter seal then install seal on transmitter. Refer to [MA-10](#), "[Fluids and Lubricants](#)".

#### NOTE:

Always replace the seal after every disassembly.

## REMOVAL AND INSTALLATION

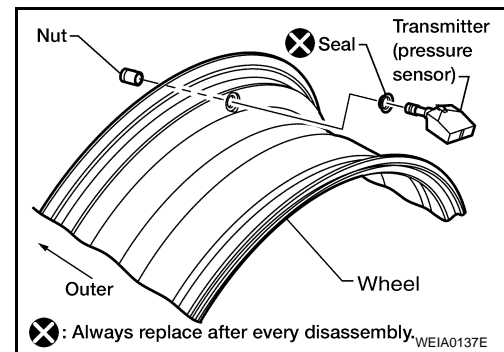
### < REMOVAL AND INSTALLATION >

3. Mount transmitter on rim and tighten nut.

**NOTE:**

Make sure no burrs exist in the valve stem hole of the wheel.

**Transmitter nut tightening torque : 5.5 N·m (0.56 kg·m, 49 in-lb)**



4. Place wheel on turntable of tire machine. Ensure that transmitter is 270 degrees from mounting/dismounting head.

**NOTE:**

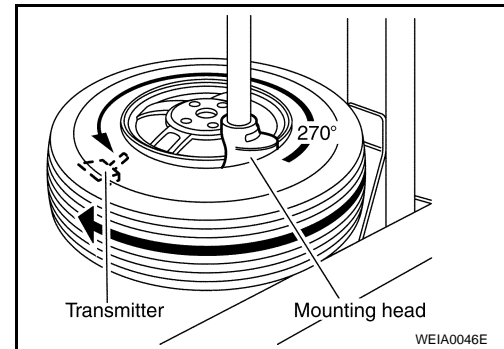
Do not touch transmitter with mounting head.

5. Lubricate tire well, and install second side of tire as normal. Ensure that tire does not rotate relative to rim.
6. Inflate tire and balance the wheel and tire assembly. Refer to [WT-35, "Balancing Wheels"](#).
7. Install wheel and tire assembly in appropriate wheel position on vehicle. Refer to [WT-36, "Rotation"](#).

**NOTE:**

If replacing the transmitter, then transmitter wake up operation must be performed. Refer to [WT-5, "Transmitter Wake Up Operation"](#).

8. Adjust neutral position of steering angle sensor. Refer to [BRC-131, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#).



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# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Road Wheel

INFOID:000000001675573

|                             |                         |                                    |
|-----------------------------|-------------------------|------------------------------------|
| Wheel type                  |                         | Aluminum                           |
| Maximum radial runout limit | Lateral mm (in)         | 0.3 (0.012) or less                |
|                             | Radial mm (in)          | 0.3 (0.012) or less                |
| Maximum residual imbalance  | Dynamic (at rim flange) | Less than 5 g (0.18 oz) (per side) |
|                             | Static (at rim flange)  | Less than 10 g (0.35 oz)           |

#### Tire

INFOID:000000001675574

Unit: kPa (kg/cm<sup>2</sup>, psi)

| Tire size            | Air pressure      |               |
|----------------------|-------------------|---------------|
|                      | Conventional tire | Spare tire    |
| Full size spare tire | —                 | 240 (2.4, 35) |
| P245/75R16           | 240 (2.4, 35)     | —             |
| P265/75R16           | 240 (2.4, 35)     | —             |
| P265/65R17           | 240 (2.4, 35)     | —             |
| P265/60R18           | 240 (2.4, 35)     | —             |