# SECTION WHEELS & TIRES

# CONTENTS

| PRECAUTION 3  |
|---|
| <b>PRECAUTIONS</b> 3         Precaution for Supplemental Restraint System       (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-SIONER"         SIONER"       3         Service Notice and Precautions for TPMS       3         Precautions for Road Wheel       4 |
| PREPARATION5  |
| <b>PREPARATION</b> 5      Special Service Tool    5      Commercial Service Tool    5   |
| SYSTEM DESCRIPTION6   |
| COMPONENT PARTS6Component Parts Location6Component Description7BCM7Transmitter7Remote Keyless Entry Receiver7Outside Key Antennas7Combination Meter7  |
| SYSTEM8System Diagram8System Description9Easy Fill Tire Alert Function9   |
| DIAGNOSIS SYSTEM (BCM)10  |
| COMMON ITEM   |
| AIR PRESSURE MONITOR  |
| ECU DIAGNOSIS INFORMATION13   |

| BCM  | F      |
|--|--------|
| WIRING DIAGRAM14   | G      |
| TIRE PRESSURE MONITORING SYSTEM14         Wiring Diagram - With Individual Tire Pressure         Display | Н      |
| BASIC INSPECTION29   |        |
| DIAGNOSIS AND REPAIR WORK FLOW29<br>Work Flow  | J      |
| ID REGISTRATION PROCEDURE  | K      |
| DTC/CIRCUIT DIAGNOSIS33  |        |
| C1704, C1705, C1706, C1707 LOW TIRE<br>PRESSURE  | L      |
| C1708, C1709, C1710, C1711 TRANSMITTER<br>(NO DATA)  | Ν      |
| C1712, C1713, C1714, C1715 TRANSMITTER<br>(CHECKSUM)   | O<br>P |
| C1716, C1717, C1718, C1719 TRANSMITTER<br>(PRESSURE DATA)  |        |

D

WΤ

В

А

# C1720, C1721, C1722, C1723 TRANSMITTER

|  | . 41 |
|--|------|
| DTC Logic  |      |
| Diagnosis Procedure  | . 41 |
| C1724, C1725, C1726, C1727 TRANSMITTER   |      |
| (BATT VOLT)  |      |
| DTC Logic  | . 43 |
| Diagnosis Procedure  | . 43 |
| C1729 VEHICLE SPEED SIGNAL   | . 45 |
| DTC Logic  |      |
| Diagnosis Procedure  | . 45 |
| C1730, C1731, C1732, C1733 FLAT TIRE   | . 46 |
| DTC Logic  |      |
| Diagnosis Procedure  |      |
| С1734 ВСМ  | 40   |
| DTC Logic  |      |
| Diagnosis Procedure  |      |
| -  |      |
| C1735 IGNITION SIGNAL  |      |
| DTC Logic<br>Diagnosis Procedure   |      |
| -  |      |
| SYMPTOM DIAGNOSIS  | . 52 |
| TPMS   | 52   |
| Symptom Table  |      |
|  |      |
| LOW TIRE PRESSURE WARNING LAMP   |      |
| DOES NOT TURN ON   | . 53 |
| Low Tire Pressure Warning Lamp Does Not Come<br>On When Ignition Switch Is Turned On | 53   |
| -  | . 55 |
| LOW TIRE PRESSURE WARNING LAMP   |      |
| STAYS ON   | . 54 |
|  |      |

Low Tire Pressure Warning Lamp Stays On When Ignition Switch Is Turned On ......54 EASY FILL TIRE ALERT DOES NOT ACTI-Description ......55 Diagnosis Procedure ......55 NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING ...... 56 NVH Troubleshooting Chart ......56 PERIODIC MAINTENANCE ...... 57 WHEEL AND TIRE ASSEMBLY ...... 58 Adjustment ......58 **REMOVAL AND INSTALLATION** ...... 61 TIRE PRESSURE SENSOR ...... 61 Exploded View ......61 Removal and Installation ......61 TIRE PRESSURE RECEIVER ...... 64 Removal and Installation ......64 SERVICE DATA AND SPECIFICATIONS 

| SERVICE DATA AND SPECIFICATIONS |  |  |  |  |
|---------------------------------|--|--|--|--|
| (SDS)                           |  |  |  |  |
| Road Wheel                      |  |  |  |  |
| Tire Air Pressure               |  |  |  |  |

# PRECAUTIONS

# < PRECAUTION >

#### PRECAUTION А PRECAUTIONS Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT В **PRF-TENSIONER**" INFOID:000000009729119 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. Information necessary to service the system safely is included in the SR and SB section of this Service Manual. D 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. WΤ 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. PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS WARNING: When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Igni-Н tion ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury. When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service. Service Notice and Precautions for TPMS INFOID:000000009177413 WARNING: Radio waves could adversely affect electric medical equipment. Those who use a pacemaker should Κ contact the electrical medical equipment manufacturer for the possible influences before use. • Low tire pressure warning lamp blinks for 1 minute, then turns ONWT-30, "Work Procedure" when any malfunction occurs except low tire pressure. Erase the self-diagnosis memories for Tire Pressure Monitoring System (TPMS), or register the ID to turn low tire pressure warning lamp OFF. For ID registration, refer to L WT-30, "Work Procedure". ID registration is required when replacing or rotating wheels, replacing tire pressure sensor or BCM. Refer to WT-30, "Work Procedure". Μ For easy fill tire alert function, refer to the following. - When inflating the tires, park the vehicle in the safe area and ensure the safety of the working area. - Read and understand the easy fill tire alert function prior to use. Inflate the tires one at a time. Ν - If there is no response for approximately 15 seconds or more after inflating the tires, cancel the use of the easy fill tire alert function or move the vehicle approximately 1 m (3.2 ft) backward or forward to try again. The air filler pressure may be weak or out of service area. - Despite the high-precision TPMS pressure sensor, an indicated value may differ from that of the pressure gauge. Air pressure is measured rather high due to the rise in tire air temperature after driving. - If TPMS is malfunctioning, the easy fill tire alert is unusable. Ρ Replace grommet seal, valve core and valve cap of tire pressure sensor in TPMS when replacing each tire by reaching the wear limit. Refer to WT-61, "Exploded View". · Because the tire pressure sensor conforms to North America radio law, the following items must be observed. The sensor may be used only in North America. - It may not be used in any method other than the specified method. - It must not be disassembled or modified.

# PRECAUTIONS

# < PRECAUTION >

# Precautions for Road Wheel

- Genuine NISSAN aluminum wheel is designed for each type of vehicle. Use it on the specified vehicle only.
- Use Genuine NISSAN parts for the wheel nuts.
- Always adjust the wheel balance prior to using them. For the balance weights, use Genuine NISSAN aluminum wheel weights.
- Use caution when handling the aluminum wheels because they can be easily scratched. When removing dirt, do not use any abrasives, a wire brush or other items that may scratch the coating. Use a neutral detergent if a detergent is needed.
- After driving on roads scattered with anti-icing salts, wash off the wheels completely.
- When installing road wheels onto the vehicle, always wipe off any dirt or foreign substances to prevent them from being trapped between the contact surfaces of wheel.
- Never apply oil to nut and bolt threads.

# PREPARATION

# < PREPARATION > PREPARATION

# PREPARATION

# Special Service Tool

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INFOID:000000009177415

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   | С       |
|---|-------------|---|---------|
| <br>(J-50190)<br>Signal Tech II                 | ALEIA0131ZZ | <ul> <li>Activate and display TPMS transmitter IDs</li> <li>Display tire pressure reported by the TPMS transmitter</li> <li>Read TPMS DTCs</li> <li>Register TPMS transmitter IDs</li> <li>Test remote keyless entry keyfob relative signal strength</li> </ul> | D<br>W1 |
| —<br>(J-45295-A)<br>Transmitter activation tool | ALEIA0183ZZ | Activate TPMS transmitter IDs   | F<br>G  |
| Commercial Service Tool                         |             | INFOID:00000009177416   | I       |
| Tool name                                       |             | Description   |         |
| Power tool                                      |             | Loosening nuts, screws and bolts.   | J       |

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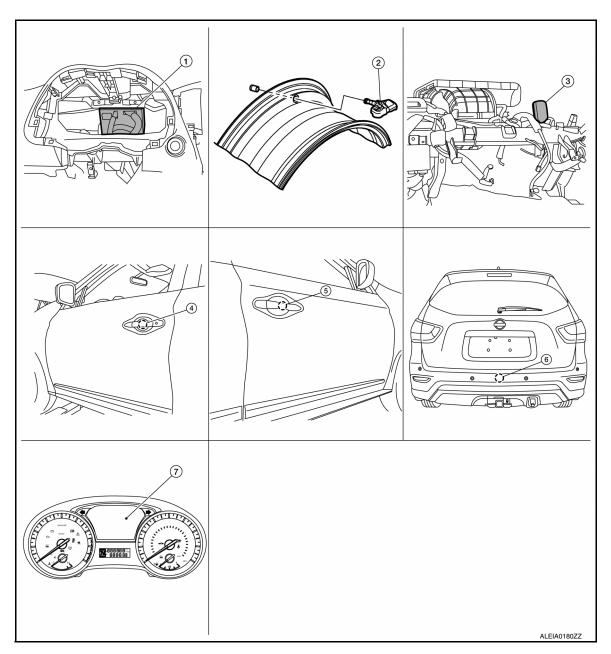
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# < SYSTEM DESCRIPTION >

# SYSTEM DESCRIPTION COMPONENT PARTS

# **Component Parts Location**

INFOID:000000009177417



- 1. BCM (view with combination meter re- 2. moved)
- 4. Front outside handle assembly LH (outside key antenna)
- 7. Combination Meter

- Transmitter
- 5. Front outside handle assembly RH (outside key antenna)
- 3. Remote keyless entry receiver (view with instrument panel removed)
- 6. Outside key antenna (rear bumper)

# WT-7, "BCM"

#### Transmitter WT-7, "Transmitter" WT-7, "Remote Keyless Entry Receiver" Remote keyless entry receiver Outside key antennas WT-7, "Outside Key Antennas" Combination meter WT-7, "Combination Meter"

**Reference/Function** 

# BCM

BCM

The BCM reads the air pressure signal received by the remote keyless entry receiver. In addition, the BCM also uses the outside key antennas (driver side, passenger side and rear bumper) to identify the location of the transmitters (if equipped with individual tire pressure display).

The BCM has a self-diagnosis function used to detect system malfunctions.

# 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

| The remote keyless entry receiver receives the air pressure signal transmitted by the transmitter in ea | .ch ⊢ |
|---|-------|
| wheel.  |       |

# Outside Key Antennas

< SYSTEM DESCRIPTION > **Component Description** 

Component parts

On vehicles equipped with individual tire pressure display, the outside key antennas (driver side, passenger side and rear bumper) are used by the BCM to identify the location of the transmitters.

# Combination Meter

The combination meter receives tire pressure status from the BCM via CAN communication. The combination meter will display the low tire pressure warning lamp when a low tire pressure or system malfunction is Κ detected by the BCM. A warning message will also be displayed in the vehicle information display. Refer to the Owner's Manual for additional information.

# COMPONENT PARTS

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INFOID:000000009177422

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#### INFOID:000000009177418

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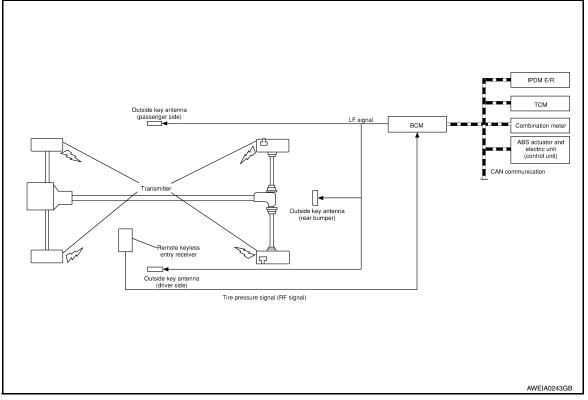
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# SYSTEM

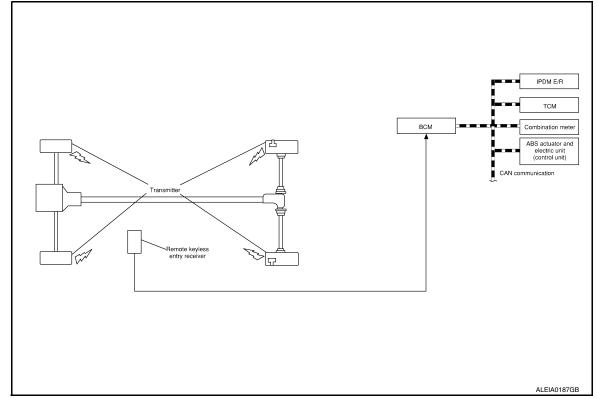
# System Diagram

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# With Individual Tire Pressure Display



Without Individual Tire Pressure Display



# SYSTEM

# < SYSTEM DESCRIPTION >

# System Description

When the vehicle has reached a speed of 40 km/h (25 MPH) or greater, the BCM receives a signal transmitted from the tire pressure sensors/transmitters installed in each wheel. If the BCM detects low inflation pressure or a system malfunction, it sends a signal to the combination meter via CAN communication to illuminate the low tire pressure warning lamp. In addition, a warning message will be displayed in the vehicle information display. Refer to the Owner's Manual for additional information.

The tire pressure monitoring system (TPMS) has a tire inflation indicator function to aid in tire inflation. Refer to <u>WT-9, "Easy Fill Tire Alert Function"</u>.

Low Tire Pressure Warning Lamp and Display Indications

| Condition   | Low tire pressure warning lamp    | Vehicle information display*    | D |
|---|-----------------------------------|---------------------------------|---|
| Ignition switch OFF                                       | OFF                               | OFF                             | D |
| Ignition switch ON<br>(system normal)                     | ON for 1 second then turns off    | No TPMS message                 | W |
| Low tire pressure   |                                   | "Tire Pressure Low - Add Air"   |   |
| Tire pressure sensor/transmitter ID not registered in BCM | ON                                |                                 |   |
| TPMS malfunction  | Blinks for 1 minute then stays ON | "TPMS Error, See Owners Manual" | F |

\*: With individual tire pressure display.

# Easy Fill Tire Alert Function

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INFOID:000000009177425

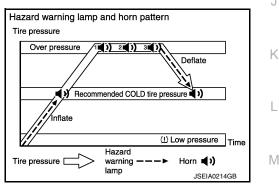
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# NOTE:

When beginning tire inflation, it takes a few seconds for the Easy fill tire alert to function. If there is no response for approximately 15 seconds or more, cancel the Easy fill tire alert function and move the vehicle H approximately 1 m (3.2 ft) backward or forward to try again.

- The Easy fill tire alert function operates only when the select lever position is in P-range with the ignition switch ON.
- This function informs the driver with a visual and audible indication that the recommended COLD tire pressure has been reached.
- The hazard warning lamps blink when the recommended COLD tire pressure has been reached. After the recommended COLD tire pressure has been reached, the horn sounds once and the hazard warning lamps stop blinking.
- If the tire pressure value is equal to or greater than 30 kPa (0.31 kg/cm<sup>2</sup>, 4 psi) more than the recommended COLD tire pressure, the hazard warning lamps flash and horn sounds three times.
- To return the tire to the recommended COLD tire pressure, deflate the tire until the horn sounds once and the hazard warning lamps stop blinking.



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< SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (BCM) COMMON ITEM

# COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000009763995

#### **CAUTION:**

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF  $\rightarrow$  ON (for at least 5 seconds)  $\rightarrow$  OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

| Direct Diagnostic Mode | Description   |  |  |  |
|------------------------|---|--|--|--|
| Ecu Identification     | The BCM part number is displayed.   |  |  |  |
| Self Diagnostic Result | The BCM self diagnostic results are displayed.  |  |  |  |
| Data Monitor           | The BCM input/output data is displayed in real time.  |  |  |  |
| Active Test            | The BCM activates outputs to test components.   |  |  |  |
| Work support           | The settings for BCM functions can be changed.  |  |  |  |
| Configuration          | <ul><li>The vehicle specification can be read and saved.</li><li>The vehicle specification can be written when replacing BCM.</li></ul> |  |  |  |
| CAN Diag Support Mntr  | The result of transmit/receive diagnosis of CAN communication is displayed.   |  |  |  |

# SYSTEM APPLICATION

BCM can perform the following functions.

|                                      |                 |                    |                        | Direct D     | Diagnosti   | c Mode       |               |                       |
|--------------------------------------|-----------------|--------------------|------------------------|--------------|-------------|--------------|---------------|-----------------------|
| System                               | Sub System      | Ecu Identification | Self Diagnostic Result | Data Monitor | Active Test | Work support | Configuration | CAN Diag Support Mntr |
| Door lock                            | DOOR LOCK       |                    | ×                      | ×            | ×           | ×            |               |                       |
| Rear window defogger                 | REAR DEFOGGER   |                    |                        | ×            | ×           | ×            |               |                       |
| Warning chime                        | BUZZER          |                    |                        | ×            | ×           |              |               |                       |
| Interior room lamp timer             | INT LAMP        |                    |                        | ×            | ×           | ×            |               |                       |
| Exterior lamp                        | HEADLAMP        |                    |                        | ×            | ×           | ×            |               |                       |
| Wiper and washer                     | WIPER           |                    |                        | ×            | ×           | ×            |               |                       |
| Turn signal and hazard warning lamps | FLASHER         |                    |                        | ×            | ×           |              |               |                       |
| Air conditioner                      | AIR CONDITIONER |                    |                        | ×            |             |              |               |                       |
| Intelligent Key system               | INTELLIGENT KEY |                    | ×                      | ×            | ×           | ×            |               |                       |
| Combination switch                   | COMB SW         |                    |                        | ×            |             |              |               |                       |
| BCM                                  | BCM             | ×                  | ×                      |              |             | ×            | ×             | ×                     |
| Immobilizer                          | IMMU            |                    | ×                      | ×            | ×           |              |               |                       |
| Interior room lamp battery saver     | BATTERY SAVER   |                    |                        | ×            | ×           |              |               |                       |
| Back door open                       | TRUNK           |                    |                        | ×            |             |              |               |                       |
| Vehicle security system              | THEFT ALM       |                    |                        | ×            | ×           | ×            |               |                       |
| RAP system                           | RETAINED PWR    |                    |                        | ×            |             |              |               |                       |

Revision: May 2013

# **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

|                      |                      |                    |                        | Direct [     | Diagnosti   | c Mode       |               |                       |   |
|----------------------|----------------------|--------------------|------------------------|--------------|-------------|--------------|---------------|-----------------------|---|
| System               | Sub System           | Ecu Identification | Self Diagnostic Result | Data Monitor | Active Test | Work support | Configuration | CAN Diag Support Mntr | E |
| Signal buffer system | SIGNAL BUFFER        |                    |                        | ×            |             |              |               |                       | • |
| TPMS                 | AIR PRESSURE MONITOR |                    | ×                      | ×            | ×           | ×            |               |                       |   |

# AIR PRESSURE MONITOR

# AIR PRESSURE MONITOR : CONSULT Function (BCM-AIR PRESSURE MONITOR) Image: Construction (BCM-AIR PRESSURE MONITOR) Image: CAUTION: After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition. F NOTE: The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information. G • Activate and display TPMS transmitter IDs • Display tire pressure reported by the TPMS transmitter H

- Read TPMS DTCs
- Register TPMS transmitter IDs
- Check Intelligent Key relative signal strength
- · Confirm vehicle Intelligent Key antenna signal strength

#### SELF DIAGNOSTIC RESULT

#### NOTE:

Before performing Self Diagnostic Result, be sure to register the transmitter ID or the actual malfunction may be different from that displayed on CONSULT. Refer to <u>BCS-52</u>, "<u>DTC Index</u>".

#### DATA MONITOR

| Monitor Item [Unit]                           | Description   |  |
|---|---|--|
| AIR PRESS FL [kPa, kg/cm <sup>2</sup> or Psi] | Indicates air pressure of front LH tire.                                    |  |
| AIR PRESS FR [kPa, kg/cm <sup>2</sup> or Psi] | Indicates air pressure of front RH tire.                                    |  |
| AIR PRESS RR [kPa, kg/cm <sup>2</sup> or Psi] | Indicates air pressure of rear RH tire.                                     |  |
| AIR PRESS RL [kPa, kg/cm <sup>2</sup> or Psi] | Indicates air pressure of rear LH tire.                                     |  |
| ID REGST FL1 [Done/Yet]                       | Indicates ID registration status of front LH transmitter.                   |  |
| ID REGST FR1 [Done/Yet]                       | Indicates ID registration status of front RH transmitter.                   |  |
| ID REGST RR1 [Done/Yet]                       | Indicates ID registration status of rear RH transmitter.                    |  |
| ID REGST RL1 [Done/Yet]                       | Indicates ID registration status of rear LH transmitter.                    |  |
| WARNING LAMP [Off/On]                         | Indicates condition of low tire pressure warning lamp in combination meter. |  |
| BUZZER [Off/On]                               | Indicates condition of buzzer in combination meter.                         |  |

#### ACTIVE TEST

Revision: May 2013

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# **DIAGNOSIS SYSTEM (BCM)**

# < SYSTEM DESCRIPTION >

| Test Item         | Description   |
|-------------------|---|
| FLASHER           | This test is able to check turn signal lamp operation [Off/LH/RH].        |
| HORN              | This test is able to check horn operation [On].                           |
| WARNING LAMP      | This test is able to check tire pressure warning lamp operation [On/Off]. |
| ID REGIST WARNING | This test is able to check ID regist warning chime operation [On/Off].    |

# WORK SUPPORT

| Support Item | Description                            |
|--------------|--|
| ID READ      | The registered ID number is displayed. |
| ID REGIST    | Refer to <u>WT-30, "Description"</u> . |

# < ECU DIAGNOSIS INFORMATION > ECU DIAGNOSIS INFORMATION BCM

# List of ECU Reference

| ECU | Reference                               |   |
|-----|---|---|
|     | BCS-30, "Reference Value"               |   |
| BCM | BCS-50, "Fail Safe"                     |   |
|     | BCS-50, "DTC Inspection Priority Chart" | D |
|     | BCS-52, "DTC Index"                     |   |

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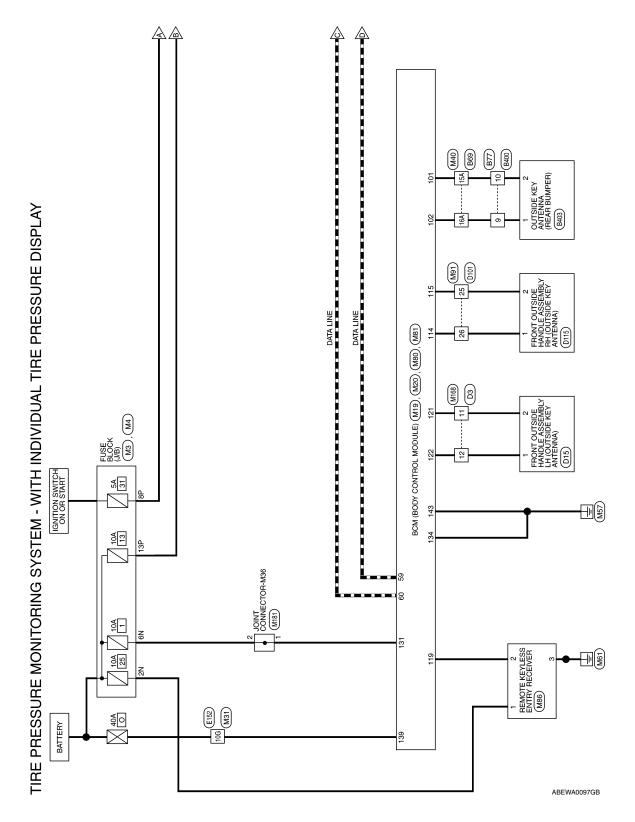
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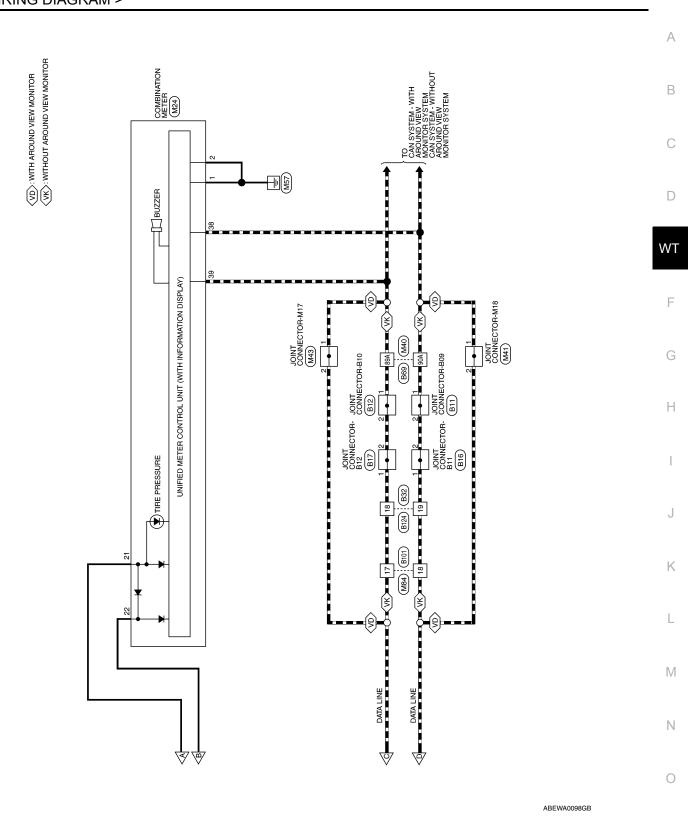
# WIRING DIAGRAM

TIRE PRESSURE MONITORING SYSTEM

Wiring Diagram - With Individual Tire Pressure Display

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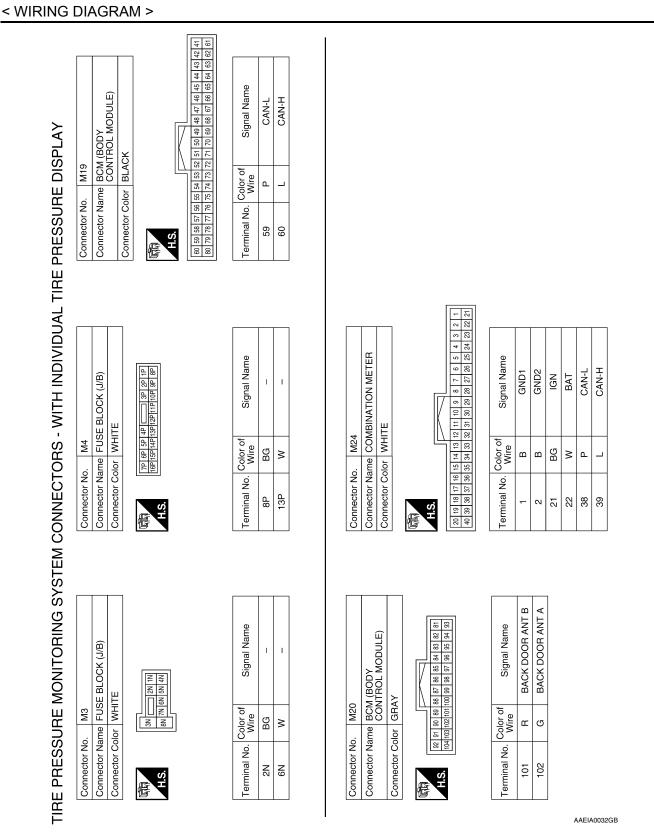


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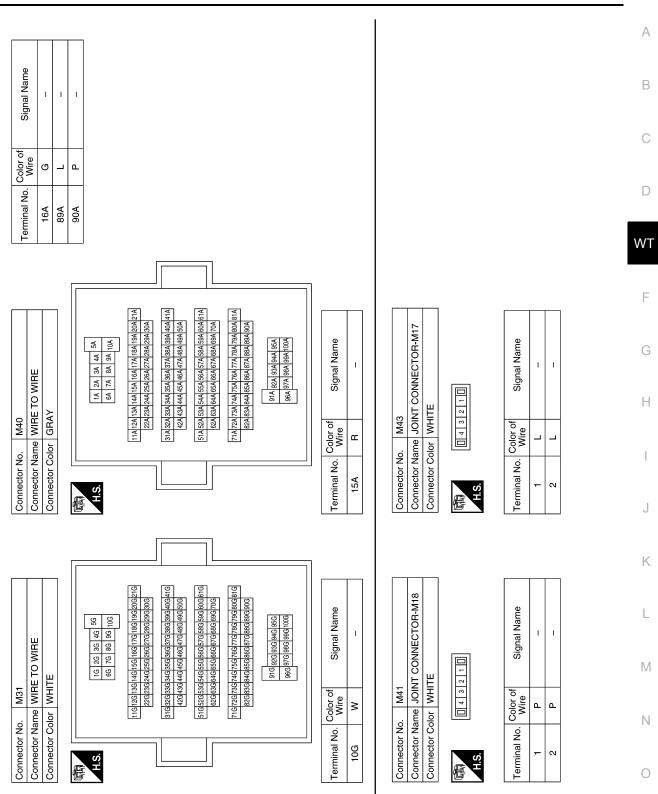
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# Revision: May 2013



# TIRE PRESSURE MONITORING SYSTEM

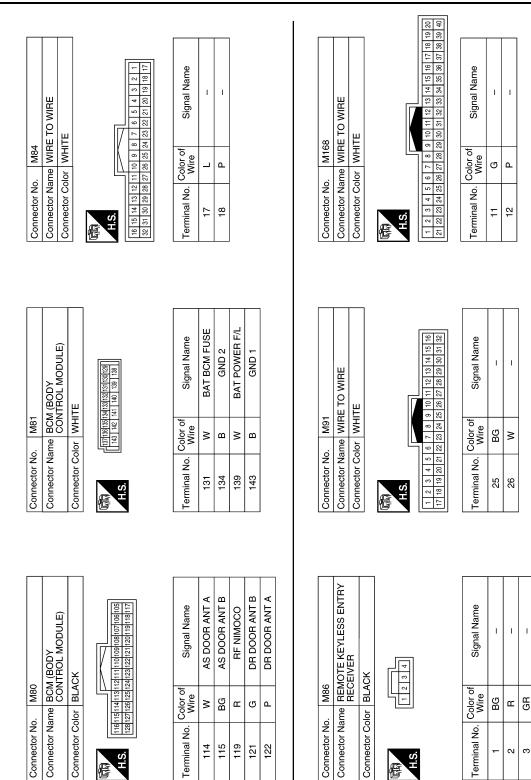
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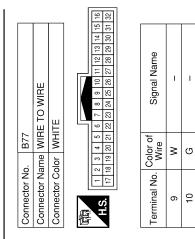
# TIRE PRESSURE MONITORING SYSTEM

А Connector Name JOINT CONNECTOR-B11 Signal Name Signal Name В I I. Т 0 4 3 2 1 0 С Connector Color WHITE B16 Color of Wire Terminal No. Color of ٩ ۵. ٩ Connector No. D Terminal No. 10G -N H.S. 佢 WT F 21G20G19G18G17G16G15G14G13G12G11G 30G29G28G27G26G26G24G23G22G 91G 80G 79G 78G 77G 76G 75G 74G 73G 72G 71G 90G 89G 88G 87G 86G 85G 84G 83G 82G 51G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G 70G 69G 68G 67G 66G 65G 64G 63G 62G 11G 40G 39G 38G 37G 35G 35G 34G 33G 32G 31G 50G 49G 48G 47G 46G 45G 44G 43G 42G Connector Name JOINT CONNECTOR-B10 Signal Name 5G 4G 3G 2G 1G 10G 9G 8G 7G 6G 95G 94G 93G 92G 91G 100G 99G 98G 97G 96G I. T Connector Name WIRE TO WIRE Н Connector Color WHITE Connector Color WHITE E152 B12 Color of Wire \_ \_ Connector No. Connector No. Terminal No. N -H.S. H.S. Æ E J Κ Connector Name JOINT CONNECTOR-M36 Connector Name JOINT CONNECTOR-B09 Signal Name Signal Name L L T Т 1 Μ Connector Color WHITE Connector Color WHITE M181 B11 Color of Wire Color of Wire ≥ ≥ ٩ ٩ Ν Connector No. Connector No. Ferminal No. Terminal No. -N -N H.S. H.S. E 佢 0

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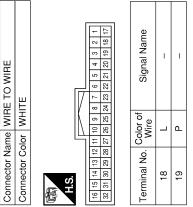


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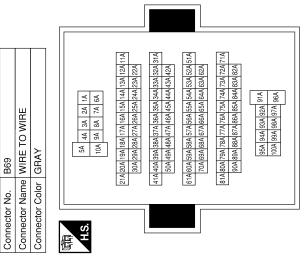
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| Connector Color WHITE | WHITE                              |
| H.S.                  |                                    |

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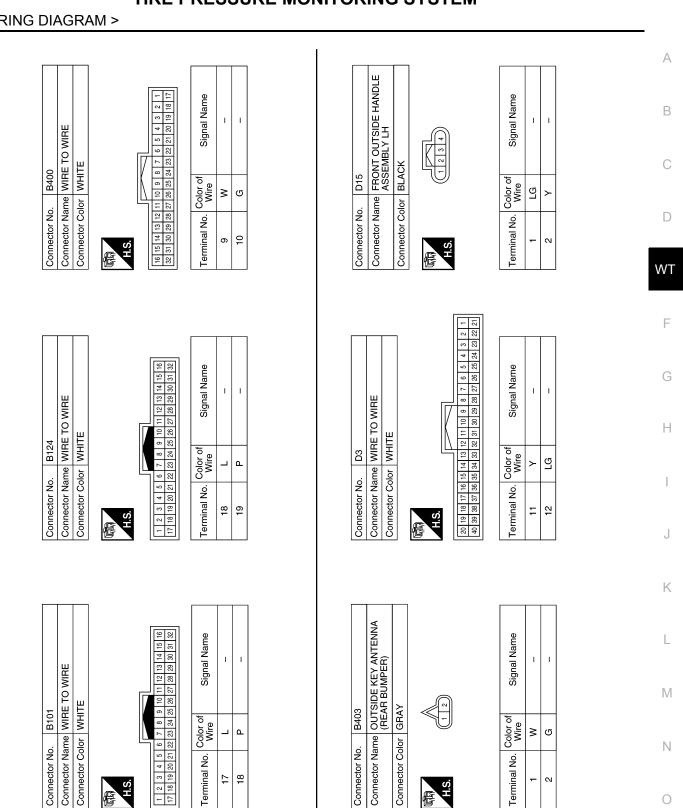
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| Signal Name      | I | I |
|------------------|---|---|
| Color of<br>Wire | Γ | Γ |
| Terminal No.     | - | 2 |

|  | Signal Name                | Ι   | -   |
|--|----------------------------|-----|-----|
|  | Color of<br>Wire           | ŋ   | Μ   |
|  | Terminal No. Color of Wire | 15A | 16A |



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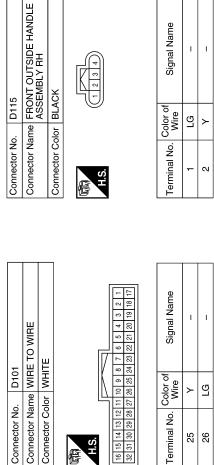
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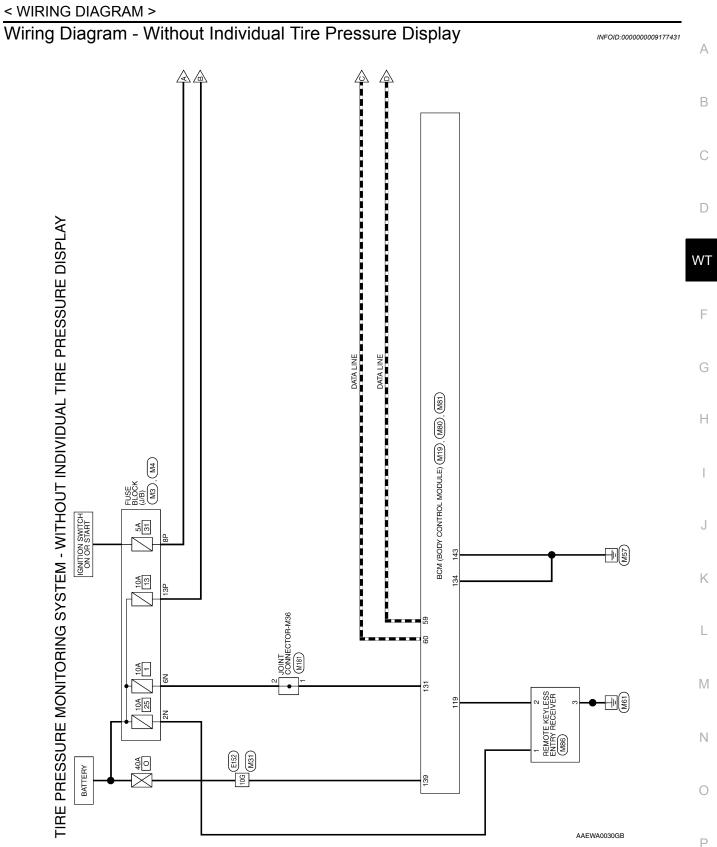
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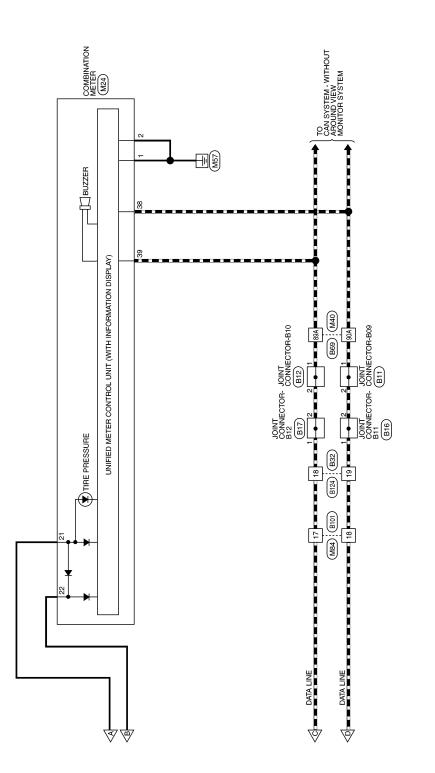
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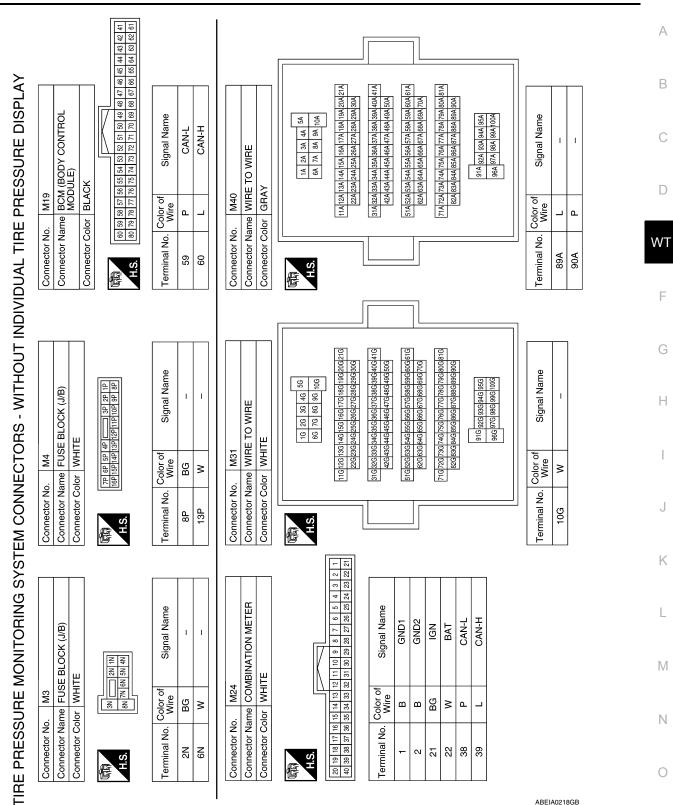
ABEIA0217GB



# TIRE PRESSURE MONITORING SYSTEM



ABEWA0099GB



ABEIA0218GB

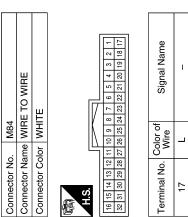
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# TIRE PRESSURE MONITORING SYSTEM

< WIRING DIAGRAM >

# TIRE PRESSURE MONITORING SYSTEM

# < WIRING DIAGRAM >



| Signal Name                | BAT BCM FUSE | GND 2 | BAT POWER F/L | 6ND 1 |
|----------------------------|--------------|-------|---------------|-------|
| Color of<br>Wire           | N            | в     | Μ             | В     |
| Terminal No. Color of Wire | 131          | 134   | 139           | 143   |

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18

| Connector No.         | M80   |
|-----------------------|---|
| Connector Name        | Connector Name BCM (BODY CONTROL<br>MODULE)     |
| Connector Color BLACK | BLACK   |
|                       |   |
| 惛                     |   |
| 116/115/11            | 16 115 114 113 112 111 110 109 108 107 106 105  |
| _                     | 128 127 126 125 124 123 122 121 120 119 118 117 |

BCM (BODY CONTROL MODULE)

M81

WHITE

Connector Color Connector Name Connector No.

H.S.

E

| Signal Name      | RF NIMOCO |
|------------------|-----------|
| Color of<br>Wire | В         |
| Terminal No.     | 119       |

|       | RF NIMOCO |  |
|-------|-----------|--|
| VVIIC | В         |  |
|       |           |  |

| Connector No.         | M86   |
|-----------------------|---|
| Connector Name        | Connector Name REMOTE KEYLESS ENTRY<br>RECEIVER |
| Connector Color BLACK | BLACK   |
| 围<br>H.S.             | 1 2 3 4   |

Connector Name JOINT CONNECTOR-M36

Connector No. M181

Connector Color WHITE

H.S.

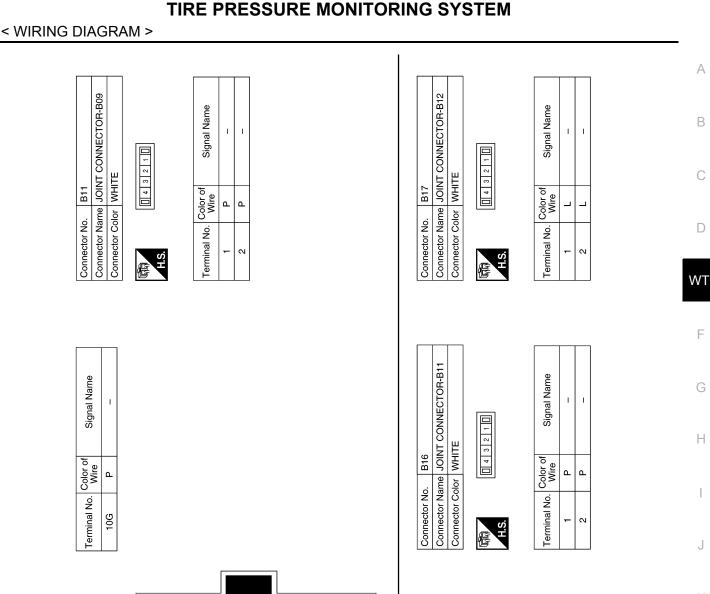
E

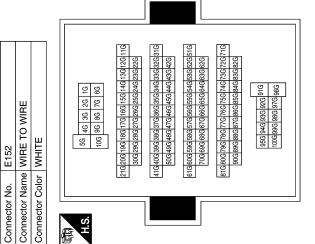
| Signal Name      | I  | Η | I  |
|------------------|----|---|----|
| Color of<br>Wire | BG | н | GR |
| Terminal No.     | ۰  | 2 | e  |

ABEIA0219GB

| Signal Name      | I | I |  |
|------------------|---|---|--|
| Color of<br>Wire | × | Μ |  |
| Terminal No.     | - | 2 |  |

| 20 19 18 17 | Г |
|-------------|---|
| O WIRE      |   |





Connector Name JOINT CONNECTOR-B10 Signal Name I. Т Connector Color WHITE Color of Wire \_ \_ Terminal No. -N H.S. f

B12

Connector No.

ABEIA0220GB

А

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D

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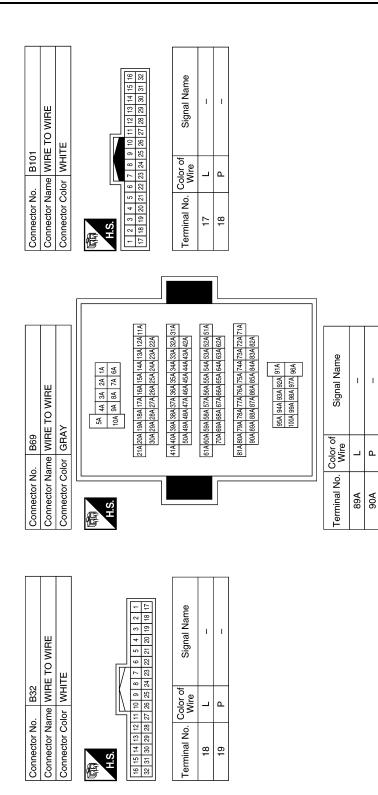
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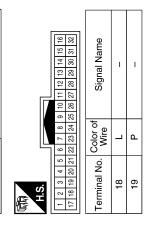
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# TIRE PRESSURE MONITORING SYSTEM

< WIRING DIAGRAM >





Connector Name WIRE TO WIRE

B124

Connector No.

Connector Color WHITE

< BASIC INSPECTION >

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

| Work Flow  | В  |
|--|----|
| <ul> <li>NOTE:</li> <li>The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.</li> <li>Activate and display TPMS transmitter IDs</li> <li>Display tire pressure reported by the TPMS transmitter</li> </ul> | С  |
| <ul> <li>Read TPMS DTCs</li> <li>Register TPMS transmitter IDs</li> </ul>  | D  |
| 1.COLLECT INFORMATION FROM CUSTOMER  | WT |
| Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).   | F  |
| >> GO TO 2.  |    |
| 2. TIRE PRESSURE INSPECTION  | G  |
| Check the tire pressure for all wheels. Refer to WT-65, "Tire Air Pressure".   |    |
| Is the inspection result normal?   |    |
| YES >> GO TO 3.<br>NO >> Repair or replace tire(s) or wheel(s).  | Η  |
| <b>3.</b> CHECK LOW TIRE PRESSURE WARNING LAMP   | 1  |
| Check that the low tire pressure warning lamp illuminates for approximately 1 second after the ignition switch is turned ON, then turns OFF.   | I  |
| Does the low tire pressure warning lamp turn OFF?  | J  |
| YES >> Inspection End.<br>NO >> GO TO 4.   |    |
| 4.PERFORM SELF DIAGNOSTIC RESULT   | Κ  |
| Perform self diagnostic result. Refer to <u>WT-11, "AIR PRESSURE MONITOR : CONSULT Function (BCM-AIR PRESSURE MONITOR)"</u> .  |    |
| Are any DTCs displayed?  | L  |
| YES >> Refer to <u>BCS-52, "DTC Index"</u> . If two or more DTCs are displayed, refer to <u>BCS-50,</u><br><u>"DTC Inspection Priority Chart"</u> .<br>NO >> GO TO 5.  | M  |
| 5. PERFORM DIAGNOSIS APPLICABLE TO THE SYMPTOM   |    |
| Perform diagnosis applicable to the symptom. Refer to <u>WT-52</u> , "Symptom Table".  |    |
|  | Ν  |
| >> GO TO 6.  |    |
| 6.FINAL CHECK  | 0  |
| Perform self diagnostic result again, and check that the malfunction is repaired. After checking, erase the self diagnosis memory. Refer to <u>WT-11</u> , " <u>AIR PRESSURE MONITOR</u> : <u>CONSULT Function</u> ( <u>BCM-AIR PRES-SURE MONITOR</u> )".  | Ρ  |

>> Inspection End.

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# **ID REGISTRATION PROCEDURE**

< BASIC INSPECTION >

# **ID REGISTRATION PROCEDURE**

# Description

This procedure must be performed:

- after replacement of a transmitter or BCM (with individual tire pressure display).
- after replacement of a transmitter, BCM or rotation of the wheels (without individual tire pressure display).

# Work Procedure

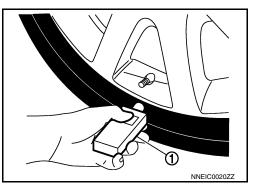
TPMS ID registration can be performed using one of the following procedures:

- Transmitter Activation tool (J-45295-A) with CONSULT (preferred method)
- Signal Tech II tool (J-50190) with CONSULT (preferred method)
- Signal Tech II tool (J-50190) without CONSULT
- CONSULT only

# TPMS REGISTRATION WITH TRANSMITTER ACTIVATION TOOL (J-45295-A)

(I) With CONSULT

- 1. Turn the ignition switch ON.
- Using CONSULT, select "WORK SUPPORT" in BCM (AIR PRESSURE MONITOR). Then, select "ID REGIST."
- 3. Select "Start" on "ID REGIST" screen.
- 4. Hold the transmitter activation tool (J-45295-A) (1) against the side of the left front tire, near the valve stem.
- 5. With the tool held at a 0 to 15 degree angle to the tire, press and hold the transmitter activation tool button until the indicator lamp turns OFF (approximately 5 seconds).
- 6. Repeat steps 4 and 5 for the remaining tires in this order: right front, right rear and left rear.



7. When ID registration is complete, check the following pattern at each wheel.

| Sequence | ID registration position | Turn signal lamp | CONSULT        |
|----------|--------------------------|------------------|----------------|
| 1        | Front LH                 |                  |                |
| 2        | Front RH                 | 2 blinks         | "Yet (red)"    |
| 3        | Rear RH                  |                  | "Done (green)" |
| 4        | Rear LH                  |                  |                |

- 8. After the ID registration procedure for all wheels is complete, press "End" on the CONSULT to finish ID registration.
- 9. Test drive the vehicle to ensure that the TPMS lamp is OFF and no warning messages are present.

# TPMS REGISTRATION WITH SIGNAL TECH II TOOL (J-50190) **NOTE**:

The Signal Tech II must be updated with software version 1.1.48 or newer in order to perform the below procedures. The Signal Tech II software updates can only be downloaded from a CONSULT unit with ASIST. Other versions of ASIST will not show the updates.

() With CONSULT

- 1. Adjust the tire pressure for all tires to the recommended value. Refer to <u>WT-65, "Tire Air Pressure"</u>.
- 2. Turn the ignition switch ON.
- Using CONSULT, select "WORK SUPPORT" in BCM (AIR PRESSURE MONITOR). Then, select "ID REGIST."
- 4. Select "Start" on "ID REGIST" screen.

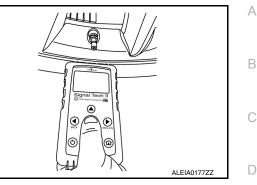
INFOID:000000009177433

INFOID:000000009177434

# **ID REGISTRATION PROCEDURE**

## < BASIC INSPECTION >

- 5. Turn on the Signal Tech II tool (J-50190).
- 6. Hold the Signal Tech II against the side of the left front tire, near the valve stem.
- 7. With the tool held at a 0 to 15 degree angle to the tire, select "Activate Sensor" from the main menu, then press and release the "OK" button to activate the sensor. Once the sensor is activated, the vehicle parking lamps will flash and the sensor ID will appear on the CONSULT screen.
- 8. Repeat steps 6 and 7 for the remaining tires in this order: right front, right rear and left rear.
- 9. When ID registration is complete, check the following pattern at each wheel.



| Sequence | ID registration position | Turn signal lamp | CONSULT             |   |
|----------|--------------------------|------------------|---------------------|---|
| 1        | Front LH                 |                  |                     | V |
| 2        | Front RH                 | 2 blinks         | "Yet (red)"         |   |
| 3        | Rear RH                  |                  | v<br>"Done (green)" |   |
| 4        | Rear LH                  |                  |                     |   |

10. Once all sensors have been activated, select "End" on the CONSULT to finish ID registration.

11. Test drive the vehicle to ensure that the TPMS lamp is OFF and no warning messages are present.

#### **Without CONSULT**

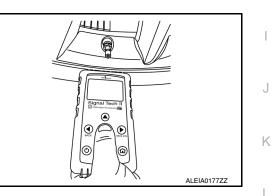
- 1. Adjust the tire pressure for all tires to the recommended value. Refer to WT-65, "Tire Air Pressure".
- 2. Turn on the Signal Tech II tool (J-50190) and select "TPMS Check" from the main menu.
- 3. Select vehicle model and year.
- 4. When prompted, hold the Signal Tech II against the side of the left front tire, near the valve stem.
- 5. With the tool held at a 0 to 15 degree angle to the tire, press and release the "OK" button to activate the sensor. Once the sensor is activated, the tool will sound a tone and the tire pressure will be displayed.
- 6. Repeat steps 4 and 5 for the remaining tires in this order: right front, right rear and left rear.
- 7. When prompted, connect the tool to the data link connector. The tool will connect to the BCM, read the VIN, read sensor IDs and check for TPMS DTCs. Along with DTCs detected, one of the following will be displayed next to each wheel:
- N/A Not applicable because no ID found by the tool
- OK Wheel and sensor are in original position
- NEW New ID found compared to BCM
- RT Wheel has been rotated
- Low Press Low tire pressure
- 8. If no DTC is present or the repair has been completed, press the "OK" button to register the IDs and clear DTCs.
- 9. Test drive the vehicle to ensure that the TPMS lamp is OFF and no warning messages are present.
- 10. Print a Signal Tech II Audit Report for your records. Refer to the Signal Tech II User Guide for instructions.

# TPMS REGISTRATION WITH CONSULT ONLY

#### (P) With CONSULT

1. Adjust the tire pressure for all wheels to match the list below.

| Tire position | Tire pressure kPa (kg/cm <sup>2</sup> , psi) |
|---------------|--|
| Front LH      | 240 (2.4, 35)                                |
| Front RH      | 220 (2.2, 32)                                |



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# **ID REGISTRATION PROCEDURE**

#### < BASIC INSPECTION >

| Tire position | Tire pressure kPa (kg/cm <sup>2</sup> , psi) |
|---------------|--|
| Rear RH       | 200 (2.0, 29)                                |
| Rear LH       | 180 (1.8, 26)                                |

2. Turn the ignition switch ON.

3. Using CONSULT, select "WORK SUPPORT" in BCM (AIR PRESSURE MONITOR). Then, select "ID REGIST."

4. Select "Start" on "ID REGIST" screen.

5. Drive the vehicle at a speed greater than 40 km/h (25 MPH) for 3 minutes or more.

6. After ID registration for all wheels is complete, press "End" on the CONSULT to finish ID registration.

| ID registration position | CONSULT        |
|--------------------------|----------------|
| Front LH                 |                |
| Front RH                 | "Yet (red)"    |
| Rear RH                  | "Done (green)" |
| Rear LH                  |                |

7. Adjust the tire pressures for all tires to the recommended value. Refer to WT-65, "Tire Air Pressure".

8. Test drive the vehicle to ensure that the TPMS lamp is OFF and no warning messages are present.

# C1704, C1705, C1706, C1707 LOW TIRE PRESSURE

< DTC/CIRCUIT DIAGNOSIS >

# DTC/CIRCUIT DIAGNOSIS C1704, C1705, C1706, C1707 LOW TIRE PRESSURE

# DTC Logic

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INFOID-000000009177436

# NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs

Register TPMS transmitter IDs

# DTC DETECTION LOGIC

|                            |  |                      | V V I |
|----------------------------|--|----------------------|-------|
| CONSULT Display            | DTC Detection Condition  | Possible Cause       |       |
| LOW PRESSURE FL<br>[C1704] | Front LH tire pressure drops to 189.6 kPa (1.9 kg/cm <sup>2</sup> , 27 psi) or less. |                      | F     |
| LOW PRESSURE FR<br>[C1705] | Front RH tire pressure drops to 189.6 kPa (1.9 kg/cm <sup>2</sup> , 27 psi) or less. | Low tire pressure    | 0     |
| LOW PRESSURE RR<br>[C1706] | Rear RH tire pressure drops to 189.6 kPa (1.9 kg/cm <sup>2</sup> , 27 psi) or less.  | Tire pressure sensor | G     |
| LOW PRESSURE RL<br>[C1707] | Rear LH tire pressure drops to 189.6 kPa (1.9 kg/cm <sup>2</sup> , 27 psi) or less.  |                      | Н     |

# DTC CONFIRMATION PROCEDURE

**1.**PERFORM SELF DIAGNOSTIC RESULT

# With CONSULT

- 1. Check tire pressure for all wheels and adjust to the specified value. Refer to <u>WT-65, "Tire Air Pressure"</u>.
- 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. Perform Self Diagnostic Result.

Is DTC C1704, C1705, C1706, or C1707 detected?

YES >> Proceed to WT-33, "Diagnosis Procedure".

NO >> Inspection End.

# Diagnosis Procedure

# NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II  $\mathbb{N}$  User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

# **1.**TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-30, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.

NO >> Replace applicable tire pressure sensor. Refer to WT-61, "Removal and Installation".

2.CHECK TIRE PRESSURE

Check the air pressure of all wheels. Refer to <u>WT-65, "Tire Air Pressure"</u>. Is the inspection result normal?

Revision: May 2013

# C1704, C1705, C1706, C1707 LOW TIRE PRESSURE

< DTC/CIRCUIT DIAGNOSIS >

YES >> Perform DTC CONFIRMATION PROCEDURE again. Refer to WT-33, "DTC Logic".

NO >> GO TO 3.

**3.**CHECK TIRE PRESSURE SIGNAL

## () With CONSULT

- 1. Adjust tire pressure for all wheels to the specified value. Refer to WT-65. "Tire Air Pressure".
- 2. Select Data Monitor from AIR PRESSURE MONITOR of BCM.
- 3. Check that the air pressures match the specified value.

| Monitor item | Displayed value  |
|--------------|--|
| AIR PRESS FL | Approximately equal to value indicated on tire gauge for front LH tire |
| AIR PRESS FR | Approximately equal to value indicated on tire gauge for front RH tire |
| AIR PRESS RR | Approximately equal to value indicated on tire gauge for rear RH tire  |
| AIR PRESS RL | Approximately equal to value indicated on tire gauge for rear LH tire  |

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace malfunctioning components.

# C1708, C1709, C1710, C1711 TRANSMITTER (NO DATA)

< DTC/CIRCUIT DIAGNOSIS >

# C1708, C1709, C1710, C1711 TRANSMITTER (NO DATA)

# DTC Logic

# NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- · Activate and display TPMS transmitter IDs
- · Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

# DTC DETECTION LOGIC

| CONSULT Display             | DTC Detection Condition  | Possible Cause  |     |
|-----------------------------|--|---|-----|
| [NO - DATA] - FL<br>[C1708] | Data signal from the front LH wheel sensor cannot be detected. | Driving in area with radio interference.                        | — W |
| [NO - DATA] - FR<br>[C1709] | Data signal from the front RH wheel sensor cannot be detected. |   | F   |
| [NO - DATA] - RR<br>[C1710] | Data signal from the rear RH wheel sensor cannot be detected.  | Harness or connectors     Remote keyless entry receiver     BCM |     |
| [NO - DATA] - RL<br>[C1711] | Data signal from the rear LH wheel sensor cannot be detected.  | t BCM   |     |

# DTC CONFIRMATION PROCEDURE

**1.**PERFORM SELF DIAGNOSTIC RESULT

#### With CONSULT

- 1. Perform tire pressure sensor ID registration. Refer to <u>WT-30, "Work Procedure"</u>.
- 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. NOTE: Avoid driving in areas with radio interference.
   Perform Self Diagnostic Result.

Is DTC C1708, C1709, C1710, or C1711 detected?

- YES >> Proceed to <u>WT-35, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

# Diagnosis Procedure

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- · Display tire pressure reported by the TPMS transmitter

Read TPMS DTCs

Register TPMS transmitter IDs

Regarding Wiring Diagram information, refer to <u>WT-14, "Wiring Diagram - With Individual Tire Pressure Dis-</u> play" or <u>WT-23, "Wiring Diagram - Without Individual Tire Pressure Display"</u>.

# **1.**CHECK TIRE PRESSURE SIGNAL

#### With CONSULT

- 1. Select Data Monitor from AIR PRESSURE MONITOR of BCM.
- 2. Check that the air pressures match the specified value.



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INFOID:000000009177438

# C1708, C1709, C1710, C1711 TRANSMITTER (NO DATA)

# < DTC/CIRCUIT DIAGNOSIS >

| Monitor item | Displayed value  |
|--------------|--|
| AIR PRESS FL |  |
| AIR PRESS FR | Approximately equal to specified value. Refer to <u>WT-65, "Tire Air Pressure"</u> . |
| AIR PRESS RR |  |
| AIR PRESS RL |  |

Are all tire pressures displayed 0 kPa (psi)?

YES >> GO TO 2.

NO >> Replace applicable tire pressure sensor. Refer to <u>BCS-80. "Removal and Installation"</u>.

# 2. CHECK REMOTE KEYLESS ENTRY RECEIVER POWER CIRCUIT

Check voltage between remote keyless entry receiver connector M86 terminal 1 and ground.

| Remote keyless entry receiver |          | Ground | Voltage         |
|-------------------------------|----------|--------|-----------------|
| Connector                     | Terminal | Ground | (Approx.)       |
| M86                           | 1        | _      | Battery voltage |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK REMOTE KEYLESS ENTRY RECEIVER SIGNAL

- 1. Turn ignition switch ON.
- Check signal between remote keyless entry receiver connector M86 terminal 2 and ground with an oscilloscope.

| Remote keyless entry receiver |          | Condition                                      | Voltage   |
|-------------------------------|----------|--|---|
| Connector                     | Terminal | Condition                                      | (Approx.)                                       |
| M86                           | 2        | Standby state                                  | (V)<br>6<br>4<br>2<br>0<br>• • 0.2s<br>OCC3881D |
|                               |          | When receiving the signal from the transmitter | (V)<br>4<br>2<br>0<br>• • 0.2s<br>OCC3860D      |

# Is the inspection result normal?

YES >> GO TO 6. NO >> GO TO 4.

NO >> GO TO 4.

# 4.CHECK REMOTE KEYLESS ENTRY RECEIVER SIGNAL CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect BCM connector M80 and remote keyless entry receiver connector.
- 3. Check continuity between BCM connector M80 terminal 119 and remote keyless entry receiver connector M86 terminal 2.

## C1708, C1709, C1710, C1711 TRANSMITTER (NO DATA)

## < DTC/CIRCUIT DIAGNOSIS >

| BCM  |  | Remote keyles   | Remote keyless entry receiver  |   |
|--|--|---|--|---|
| Connector  | Terminal   | Connector   | Terminal   | - Continuity  |
| M80  | 119  | M86   | M86 2  |   |
| <ol> <li>Check continuity b</li> </ol>   | etween BCM connec  | tor M80 terminal 119 a  | nd ground.   |   |
|  | BCM  |   |  |   |
| Connector  | Terminal   |   | round  | Continuity  |
| M80  | 119  |   | _  | No  |
| Is the inspection result   |  |   |  |   |
| YES >> GO TO 5.  | <u></u>  |   |  |   |
| _  | replace harness or co  |   |  |   |
| <b>J</b> .CHECK REMOTE   | KEYLESS ENTRY RE   | ECEIVER GROUND C  | RCUIT  |   |
| Check continuity betwe   | een remote keyless e   | ntry receiver connecto  | r M86 terminal 3 ar  | d ground.   |
|  |  |   |  |   |
|  | eyless entry receiver  |   | round  | Continuity  |
| Connector  | Terminal   |   |  |   |
|  |  | 3 —   |  |   |
| YES >> Replace the NO >> Repair or NO >> Repair or NO >> Repair or NO >> NO >> Repair or NO >> N | normal?<br>ne remote keyless en<br>replace harness or co<br>SENSOR ID REGIST   | RATION  |  | Yes<br>d Installation".                                     |
| Is the inspection result<br>YES >> Replace th<br>NO >> Repair or 1<br>6.TIRE PRESSURE S<br>Perform tire pressure s<br>Can the tire pressure s<br>YES >> GO TO 7.<br>NO >> Replace a<br>7.RECHECK TIRE PI<br>Mith CONSULT<br>1. Drive at a speed of   | normal?<br>ne remote keyless en<br>replace harness or co<br>SENSOR ID REGIST<br>sensor ID registration<br>sensor ID registration<br>pplicable tire pressur<br>RESSURE SIGNAL   | onnectors.<br>RATION<br>. Refer to <u>WT-30, "Worbe completed?</u><br>e sensor. Refer to <u>WT-</u>   | <u>k Procedure"</u> .<br>61, "Removal and I  | d Installation".  |
| Is the inspection result<br>YES >> Replace th<br>NO >> Repair or 1<br>6.TIRE PRESSURE S<br>Perform tire pressure s<br>Can the tire pressure s<br>YES >> GO TO 7.<br>NO >> Replace a<br>7.RECHECK TIRE PI<br>With CONSULT<br>1. Drive at a speed of<br>10 minutes.<br>2. Select Data Monito   | normal?<br>ne remote keyless en<br>replace harness or co<br>SENSOR ID REGIST<br>sensor ID registration<br>sensor ID registration<br>pplicable tire pressur<br>RESSURE SIGNAL   | onnectors.<br>RATION<br>. Refer to <u>WT-30, "Worbe completed?</u><br>e sensor. Refer to <u>WT-</u><br>or more for 3 minutes,<br>IRE MONITOR of BCM                     | <u>k Procedure"</u> .<br>61, "Removal and I<br>and then drive the                    | d Installation".  |
| s the inspection result         YES       >> Replace th         NO       >> Repair or in         D.TIRE PRESSURE S         Perform tire pressure s         Can the tire pressure s         YES       >> GO TO 7.         NO       >> Replace a         PRECHECK TIRE PI         With CONSULT         I. Drive at a speed of 10 minutes.         2. Select Data Monito  | normal?<br>ne remote keyless en<br>replace harness or co<br>SENSOR ID REGIST<br>sensor ID registration<br>sensor ID registration<br>pplicable tire pressur<br>RESSURE SIGNAL<br>of 40 km/h (25 MPH)<br>or from AIR PRESSU<br>pressures match the | onnectors.<br>RATION<br>. Refer to <u>WT-30, "Worbe completed?</u><br>e sensor. Refer to <u>WT-</u><br>or more for 3 minutes,<br>IRE MONITOR of BCM<br>specified value. | <u>k Procedure"</u> .<br>61, "Removal and I<br>and then drive the                    | d Installation".  |
| s the inspection result         YES       >> Replace th         NO       >> Repair or in         D.TIRE PRESSURE S         Perform tire pressure s         Can the tire pressure s         YES       >> GO TO 7.         NO       >> Replace a         YES       >> GO TO 7.         NO       >> Replace a         RECHECK TIRE PI         With CONSULT         Drive at a speed of 10 minutes.         Select Data Monite         Check that the air  | normal?<br>ne remote keyless en<br>replace harness or co<br>SENSOR ID REGIST<br>sensor ID registration<br>sensor ID registration<br>pplicable tire pressur<br>RESSURE SIGNAL<br>of 40 km/h (25 MPH)<br>or from AIR PRESSU<br>pressures match the | onnectors.<br>RATION<br>. Refer to <u>WT-30, "Worbe completed?</u><br>e sensor. Refer to <u>WT-</u><br>or more for 3 minutes,<br>IRE MONITOR of BCM<br>specified value. | <u>k Procedure"</u> .<br>61, "Removal and I<br>and then drive the                    | d Installation".  |
| s the inspection result<br>YES >> Replace th<br>NO >> Repair or P<br>D.TIRE PRESSURE S<br>Perform tire pressure s<br>Can the tire pressure s<br>YES >> GO TO 7.<br>NO >> Replace a<br>PRECHECK TIRE PI<br>With CONSULT<br>Drive at a speed of<br>10 minutes.<br>Select Data Monitor<br>Check that the air  | normal?<br>ne remote keyless en<br>replace harness or co<br>SENSOR ID REGIST<br>sensor ID registration<br>pplicable tire pressur<br>RESSURE SIGNAL<br>of 40 km/h (25 MPH)<br>or from AIR PRESSU<br>pressures match the                           | onnectors.<br>RATION<br>. Refer to <u>WT-30, "Worbe completed?</u><br>e sensor. Refer to <u>WT-</u><br>or more for 3 minutes,<br>IRE MONITOR of BCM<br>specified value. | <u>k Procedure"</u> .<br>61, "Removal and I<br>and then drive the<br>Displayed value | d Installation".<br>nstallation".<br>vehicle at any speed f |
| s the inspection result<br>YES >> Replace th<br>NO >> Repair or 10<br>D.TIRE PRESSURE S<br>Perform tire pressure s<br>Can the tire pressure s<br>YES >> GO TO 7.<br>NO >> Replace a<br>7.RECHECK TIRE PI<br>10 Mith CONSULT<br>1. Drive at a speed of<br>10 minutes.<br>2. Select Data Monito<br>3. Check that the air<br>Monitor item<br>AIR PRESS F  | normal?<br>ne remote keyless en<br>replace harness or co<br>SENSOR ID REGIST<br>sensor ID registration<br>policable tire pressur<br>RESSURE SIGNAL<br>of 40 km/h (25 MPH)<br>pressures match the<br>L<br>R<br>Approximation                      | onnectors.<br>RATION<br>. Refer to <u>WT-30, "Worbe completed?</u><br>e sensor. Refer to <u>WT-</u><br>or more for 3 minutes,<br>IRE MONITOR of BCM<br>specified value. | <u>k Procedure"</u> .<br>61, "Removal and I<br>and then drive the<br>Displayed value | d Installation".<br>nstallation".<br>vehicle at any speed f |
| Is the inspection result<br>YES >> Replace th<br>NO >> Repair or 10<br><b>6</b> .TIRE PRESSURE S<br>Perform tire pressure s<br>Can the tire pressure s<br>YES >> GO TO 7.<br>NO >> Replace a<br><b>7</b> .RECHECK TIRE PI<br><b>With CONSULT</b><br>1. Drive at a speed of<br>10 minutes.<br>2. Select Data Monito<br>3. Check that the air<br>Monitor item<br>AIR PRESS F   | normal?<br>ne remote keyless en<br>replace harness or co<br>SENSOR ID REGIST<br>sensor ID registration<br>pplicable tire pressur<br>RESSURE SIGNAL<br>of 40 km/h (25 MPH)<br>or from AIR PRESSU<br>pressures match the<br>L<br>R<br>Approxima    | onnectors.<br>RATION<br>. Refer to <u>WT-30, "Worbe completed?</u><br>e sensor. Refer to <u>WT-</u><br>or more for 3 minutes,<br>IRE MONITOR of BCM<br>specified value. | <u>k Procedure"</u> .<br>61, "Removal and I<br>and then drive the<br>Displayed value | d Installation".<br>nstallation".<br>vehicle at any speed f |

## C1712, C1713, C1714, C1715 TRANSMITTER (CHECKSUM)

< DTC/CIRCUIT DIAGNOSIS >

## C1712, C1713, C1714, C1715 TRANSMITTER (CHECKSUM)

## DTC Logic

INFOID:000000009177439

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- · Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

#### DTC DETECTION LOGIC

| CONSULT Display                  | DTC Detection Condition  | Possible Cause   |
|----------------------------------|--|--|
| [CHECKSUM - ERR] - FL<br>[C1712] | Checksum data signal from front LH wheel sensor is malfunctioning. |  |
| [CHECKSUM - ERR] - FR<br>[C1713] | Checksum data signal from front RH wheel sensor is malfunctioning. | <ul> <li>ID registration incomplete</li> <li>Tire pressure sensor</li> </ul> |
| [CHECKSUM - ERR] - RR<br>[C1714] | Checksum data signal from rear RH wheel sensor is malfunctioning.  | BCM  |
| [CHECKSUM - ERR] - RL<br>[C1715] | Checksum data signal from rear LH wheel sensor is malfunctioning.  |  |

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM SELF DIAGNOSTIC RESULT

#### (I) With CONSULT

- 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. Perform Self Diagnostic Result.

Is DTC C1712, C1713, C1714, or C1715 detected?

- YES >> Proceed to WT-38. "Diagnosis Procedure".
- NO >> Inspection End.

#### **Diagnosis** Procedure

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

## 1. TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-30, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.

NO >> Replace applicable tire pressure sensor. Refer to <u>WT-61, "Removal and Installation"</u>.

## 2. PERFORM SELF DIAGNOSTIC RESULT

#### (I) With CONSULT

- 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. Perform Self Diagnostic Result.
- Is DTC C1712, C1713, C1714, or C1715 detected?

## C1712, C1713, C1714, C1715 TRANSMITTER (CHECKSUM)

|           | CIRCUIT DIAGNOSIS >   |    |
|-----------|---|----|
| YES<br>NO | >> Replace BCM. Refer to <u>BCS-80, "Removal and Installation"</u> . >> Inspection End. | А  |
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## C1716, C1717, C1718, C1719 TRANSMITTER (PRESSURE DATA) < DTC/CIRCUIT DIAGNOSIS >

## C1716, C1717, C1718, C1719 TRANSMITTER (PRESSURE DATA)

## DTC Logic

INFOID:000000009177441

## DTC DETECTION LOGIC

| CONSULT Display               | DTC Detection Condition   | Possible Cause   |
|-------------------------------|---|--|
| [PRESSDATA ERR] FL<br>[C1716] | Malfunction in the tire pressure data from the front LH wheel tire pressure sensor. |  |
| [PRESSDATA ERR] FR<br>[C1717] | Malfunction in the tire pressure data from the front RH wheel tire pressure sensor. | <ul><li>Excessive tire pressure</li><li>ID registration incomplete</li></ul> |
| [PRESSDATA ERR] RR<br>[C1718] | Malfunction in the tire pressure data from the rear RH wheel tire pressure sensor.  | <ul><li>Tire pressure sensor</li><li>BCM</li></ul>                           |
| [PRESSDATA ERR] RL<br>[C1719] | Malfunction in the tire pressure data from the rear LH wheel tire pressure sensor.  |  |

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM SELF DIAGNOSTIC RESULT

#### () With CONSULT

- 1. Check tire pressure for all wheels and adjust to the specified value. Refer to WT-65. "Tire Air Pressure".
- 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. Perform Self Diagnostic Result.
- Is DTC C1716, C1717, C1718, or C1719 detected?
- YES >> Proceed to WT-40, "Diagnosis Procedure".
- NO >> Inspection End.

#### Diagnosis Procedure

INFOID:000000009177442

## 1. TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-30, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.

NO >> Replace applicable tire pressure sensor. Refer to WT-61, "Removal and Installation".

2. CHECK TIRE PRESSURE SIGNAL

#### (P) With CONSULT

- 1. Adjust tire pressure for all wheels to the specified value. Refer to WT-65, "Tire Air Pressure".
- 2. Select Data Monitor from AIR PRESSURE MONITOR of BCM.
- 3. Check that the air pressures match the specified value.

| Monitor item | Displayed value  |  |
|--------------|--|--|
| AIR PRESS FL |  |  |
| AIR PRESS FR | Approximately equal to specified value. Refer to <u>WT-65, "Tire Air Pressure"</u> . |  |
| AIR PRESS RR |  |  |
| AIR PRESS RL |  |  |

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace BCM. Refer to <u>BCS-80, "Removal and Installation"</u>.

## C1720, C1721, C1722, C1723 TRANSMITTER

#### < DTC/CIRCUIT DIAGNOSIS >

## C1720, C1721, C1722, C1723 TRANSMITTER

## **DTC Logic**

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

#### DTC DETECTION LOGIC

| CONSULT Display              | DTC Detection Condition  | Possible Cause               |
|------------------------------|--|------------------------------|
| [CODE - ERR] - FL<br>[C1720] | Function code data from front LH wheel sensor is malfunctioning. |                              |
| [CODE - ERR] - FR<br>[C1721] | Function code data from front RH wheel sensor is malfunctioning. | ID registration incomplete   |
| [CODE - ERR] - RR<br>[C1722] | Function code data from rear RH wheel sensor is malfunctioning.  | Tire pressure sensor     BCM |
| [CODE - ERR] - RL<br>[C1723] | Function code data from rear LH wheel sensor is malfunctioning.  | -                            |
|                              |  |                              |

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM SELF DIAGNOSTIC RESULT

#### With CONSULT

- 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. Perform Self Diagnostic Result.

Is DTC C1720, C1721, C1722, or C1723 detected?

- YES >> Proceed to WT-41. "Diagnosis Procedure".
- NO >> Inspection End.

#### **Diagnosis** Procedure

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

## **1.**TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-30, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.

NO >> Replace applicable tire pressure sensor. Refer to WT-61, "Removal and Installation".

2. PERFORM SELF DIAGNOSTIC RESULT

#### With CONSULT

- 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. Perform Self Diagnostic Result.
- Is DTC C1720, C1721, C1722, or C1723 detected?

## WT-41

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## C1720, C1721, C1722, C1723 TRANSMITTER

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Replace BCM. Refer to <u>BCS-80, "Removal and Installation"</u>.
- NO >> Inspection End.

## C1724, C1725, C1726, C1727 TRANSMITTER (BATT VOLT)

< DTC/CIRCUIT DIAGNOSIS >

## C1724, C1725, C1726, C1727 TRANSMITTER (BATT VOLT)

## DTC Logic

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

#### DTC DETECTION LOGIC

| CONSULT Display                     | DTC Detection Condition                         | Possible Cause       |   |
|-------------------------------------|---|----------------------|---|
| [BATT - VOLT - LOW] - FL<br>[C1724] | Battery voltage of front LH wheel sensor drops. |                      | V |
| [BATT - VOLT - LOW] - FR<br>[C1725] | Battery voltage of front RH wheel sensor drops. | Tire pressure sensor |   |
| [BATT - VOLT - LOW] - RR<br>[C1726] | Battery voltage of rear RH wheel sensor drops.  | • BCM                |   |
| [BATT - VOLT - LOW] - RL<br>[C1727] | Battery voltage of rear LH wheel sensor drops.  |                      |   |

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM SELF DIAGNOSTIC RESULT

#### With CONSULT

- 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. Perform Self Diagnostic Result.

Is DTC C1724, C1725, C1726, or C1727 detected?

- YES >> Proceed to WT-43. "Diagnosis Procedure".
- NO >> Inspection End.

## **Diagnosis** Procedure

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

## **1.**TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-30, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.

NO >> Replace applicable tire pressure sensor. Refer to <u>WT-61, "Removal and Installation"</u>.

**2.** PERFORM SELF DIAGNOSTIC RESULT

## B With CONSULT

- 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. Perform Self Diagnostic Result.
- Is DTC C1724, C1725, C1726, or C1727 detected?

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## C1724, C1725, C1726, C1727 TRANSMITTER (BATT VOLT)

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Replace BCM. Refer to <u>BCS-80, "Removal and Installation"</u>.
- NO >> Inspection End.

## **C1729 VEHICLE SPEED SIGNAL**

#### < DTC/CIRCUIT DIAGNOSIS >

## **C1729 VEHICLE SPEED SIGNAL**

## **DTC Logic**

1.

YES

NO

INFOID:000000009177447 DTC DETECTION LOGIC **CONSULT** Display **DTC Detection Condition** Possible Cause · CAN communication VHCL SPEED SIG ERR • BCM Vehicle speed signal not detected. [C1729] · Combination meter DTC CONFIRMATION PROCEDURE 1.PERFORM SELF DIAGNOSTIC RESULT (I) With CONSULT 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. Perform Self Diagnostic Result. Is DTC C1729 detected? >> Proceed to WT-45, "Diagnosis Procedure". >> Inspection End.

## **Diagnosis** Procedure

1.PERFORM SELF DIAGNOSTIC RESULT FOR COMBINATION METER

#### (P) With CONSULT

Perform Self Diagnostic Result for METER M&A. Refer to MWI-19, "CONSULT Function (METER/M&A)". Are any DTCs detected? YES >> Refer to MWI-29, "DTC Index",

>> Replace the BCM. Refer to BCS-80, "Removal and Installation". NO

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## C1730, C1731, C1732, C1733 FLAT TIRE

#### < DTC/CIRCUIT DIAGNOSIS >

## C1730, C1731, C1732, C1733 FLAT TIRE

## DTC Logic

NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- · Activate and display TPMS transmitter IDs
- · Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

#### DTC DETECTION LOGIC

| CONSULT Display         | DTC Detection Condition   | Possible Cause       |
|-------------------------|---|----------------------|
| FLAT TIRE FL<br>[C1730] | Front LH tire pressure is 70 kPa (0.7 kg/cm <sup>2</sup> , 10 psi) or less. |                      |
| FLAT TIRE FR<br>[C1731] | Front RH tire pressure is 70 kPa (0.7 kg/cm <sup>2</sup> , 10 psi) or less. | Low tire pressure    |
| FLAT TIRE RR<br>[C1732] | Rear RH tire pressure is 70 kPa (0.7 kg/cm <sup>2</sup> , 10 psi) or less.  | Tire pressure sensor |
| FLAT TIRE RL<br>[C1733] | Rear LH tire pressure is 70 kPa (0.7 kg/cm <sup>2</sup> , 10 psi) or less.  |                      |

#### DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

#### With CONSULT

- 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. Perform Self Diagnostic Result.

Is DTC C1730, C1731, C1732, or C1733 detected?

- YES >> Proceed to WT-46, "Diagnosis Procedure".
- NO >> Inspection End.

#### **Diagnosis** Procedure

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

## **1.** TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-30, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.

```
NO >> Replace applicable tire pressure sensor. Refer to WT-61, "Removal and Installation".
```

2.CHECK TIRE PRESSURE

Check the air pressure of all wheels. Refer to WT-65. "Tire Air Pressure".

Is the inspection result normal?

YES >> Perform DTC CONFIRMATION PROCEDURE again. Refer to <u>WT-46, "DTC Logic"</u>.

NO >> GO TO 3.

INFOID:000000009177450

## C1730, C1731, C1732, C1733 FLAT TIRE

#### < DTC/CIRCUIT DIAGNOSIS >

# **3.**CHECK TIRE PRESSURE SIGNAL

#### (I) With CONSULT

- 1. Adjust tire pressure for all wheels to the specified value. Refer to WT-65, "Tire Air Pressure".
- 2. Select Data Monitor from AIR PRESSURE MONITOR of BCM.
- 3. Check that the air pressures match the specified value.

|   | Displayed value  | Monitor item |
|---|--|--------------|
|   | Approximately equal to value indicated on tire gauge for front LH tire | AIR PRESS FL |
|   | Approximately equal to value indicated on tire gauge for front RH tire | AIR PRESS FR |
| D | Approximately equal to value indicated on tire gauge for rear RH tire  | AIR PRESS RR |
|   | Approximately equal to value indicated on tire gauge for rear LH tire  | AIR PRESS RL |

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace malfunctioning components.

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#### < DTC/CIRCUIT DIAGNOSIS >

## C1734 BCM

## DTC Logic

NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

· Activate and display TPMS transmitter IDs

- · Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

#### DTC DETECTION LOGIC

| CONSULT Display         | DTC Detection Condition  | Possible Cause |  |
|-------------------------|--------------------------|----------------|--|
| CONTROL UNIT<br>[C1734] | TPMS malfunction in BCM. | ВСМ            |  |

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM SELF DIAGNOSTIC RESULT

#### With CONSULT

Perform Self Diagnostic Result.

Is DTC C1734 detected?

YES >> Proceed to <u>WT-48. "Diagnosis Procedure"</u>.

NO >> Inspection End.

#### Diagnosis Procedure

INFOID:000000009177452

INFOID:000000009177451

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter

Read TPMS DTCs

Register TPMS transmitter IDs

Regarding Wiring Diagram information, refer to <u>WT-14</u>, "Wiring Diagram - With Individual Tire Pressure Display" or <u>WT-23</u>, "Wiring Diagram - Without Individual Tire Pressure Display".

## **1.**CHECK BCM HARNESS CONNECTORS

Check BCM harness connectors for damage or loose connections.

Is the inspection result normal?

YES >> Repair or replace connectors.

NO >> GO TO 2.

2. CHECK BCM POWER SUPPLY AND GROUND

Check BCM power supply and ground. Refer to <u>BCS-74. "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK REMOTE KEYLESS ENTRY RECEIVER POWER CIRCUIT

Check voltage between remote keyless entry receiver connector M86 terminal 1 and ground.

## C1734 BCM

## < DTC/CIRCUIT DIAGNOSIS >

| Remote ke  | less entry receiver                   |               |   | Voltage                          |
|--|---------------------------------------|---------------|---|----------------------------------|
| Connector  | Termin                                | al            | Ground  | (Approx.)                        |
| M86  | 1                                     |               | —   | Battery voltage                  |
| the inspection result n<br>YES >> GO TO 4.<br>NO >> Repair or re<br>CHECK REMOTE KE                      | blace harness or co<br>YLESS ENTRY RE |               | GNAL CIRCUIT  |                                  |
|  |                                       |               | s entry receiver connector<br>inal 119 and remote key | or.<br>less entry receiver conne |
| BCM  |                                       | Rer           | note keyless entry receiver                           | Continuity                       |
| Connector  | Terminal                              | Connec        |   |                                  |
| M80  | 119                                   | M86           |   | Yes                              |
| . Check continuity bet   | ween BCM connec                       | tor M80 term  | inal 119 and ground.                                  |                                  |
|  | DOM                                   | 1             |   | 1                                |
| Connector  | BCM<br>Terminal                       |               | Ground  | Continuity                       |
| M80  | 119                                   |               |   | No                               |
| s the inspection result n  |                                       |               |   | NO                               |
| CHECK REMOTE KE  |                                       | ECEIVER GR    | OUND CIRCUIT  | 3 and ground.                    |
| Remote keyl  | ess entry receiver                    |               | Ground  | Continuity                       |
| Connector  | Terminal                              |               |   |                                  |
| M86  | 3                                     |               | —   | Yes                              |
| <u>s the inspection result n</u><br>YES >> GO TO 6.<br>NO >> Repair or rep<br><b>6.</b> CHECK BCM INPUT/ | place harness or co                   |               |   |                                  |
| Check BCM input/output   | signals. Refer to B                   | CS-30, "Refe  | erence Value".  |                                  |
| s the inspection result n<br>YES >> Inspection E   | ormal?                                |               |   |                                  |
|  | M. Refer to BCS-80                    | ), "Removal a | and Installation".                                    |                                  |
|  |                                       |               |   |                                  |
|  |                                       |               |   |                                  |
|  |                                       |               |   |                                  |

Revision: May 2013

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< DTC/CIRCUIT DIAGNOSIS >

## C1735 IGNITION SIGNAL

## DTC Logic

NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

· Activate and display TPMS transmitter IDs

- · Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

#### DTC DETECTION LOGIC

| CONSULT Display                            | DTC Detection Condition                             | Possible Cause |
|--|---|----------------|
| IGNITION SIGNAL LINE - BCM/TPMS<br>[C1735] | BCM has detected a mismatch between IGN ON signals. | ВСМ            |

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM SELF DIAGNOSTIC RESULT

#### With CONSULT

Perform Self Diagnostic Result.

Is DTC C1735 detected?

YES >> Proceed to <u>WT-50, "Diagnosis Procedure"</u>.

NO >> Inspection End.

#### **Diagnosis** Procedure

INFOID:000000009177454

INFOID:000000009177453

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

#### **1.**CHECK CAN IGNITION SIGNAL

#### () With CONSULT

1. Select Data Monitor from INTELLIGENT KEY of BCM.

2. Check IGN RLY1-F/B value.

| Monitor item | Displayed value                 |  |  |  |
|--------------|---------------------------------|--|--|--|
| IGN RLY1 F/B | On with ignition in ON position |  |  |  |

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Check CAN system. Refer to <u>LAN-20, "Trouble Diagnosis Flow Chart"</u>.

2.CHECK BCM POWER SUPPLY AND GROUND

Check BCM power supply and ground. Refer to BCS-74. "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. DRIVE VEHICLE

Clear DTC and test drive vehicle to check for low tire pressure warning lamp. Does the vehicle operate without any low tire pressure warning lamp?

## **C1735 IGNITION SIGNAL**

|           | /CIRCUIT DIAGNOSIS >  |   |
|-----------|---|---|
| YES<br>NO | >> Inspection End. >> Replace BCM. Refer to <u>BCS-80, "Removal and Installation"</u> . |   |
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# SYMPTOM DIAGNOSIS TPMS

# Symptom Table

| Symptom  | Reference    |  |  |  |
|--|--------------|--|--|--|
| Low tire pressure warning lamp does not come on when ignition switch is turned ON. | <u>WT-53</u> |  |  |  |
| Low tire pressure warning lamp stays on when ignition switch is turned ON.         |              |  |  |  |
| Easy fill tire alert does not activate.  |              |  |  |  |

## LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON

| <pre>&lt; SYMPTOM DIAGNOSIS &gt; LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON</pre>   |    |
|--|----|
| Low Tire Pressure Warning Lamp Does Not Come On When Ignition Switch Is Turned   | А  |
|  | В  |
| <ul> <li>NOTE:<br/>The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.</li> <li>Activate and display TPMS transmitter IDs</li> <li>Display tire pressure reported by the TPMS transmitter</li> <li>Read TPMS DTCs</li> <li>Register TPMS transmitter IDs</li> </ul> | C  |
| 1.PERFORM SELF DIAGNOSTIC RESULT   | WT |
| With CONSULT   |    |
| Perform Self Diagnostic Result. <u>Is DTC U1000 detected?</u>  | F  |
| YES >> Refer to <u>LAN-20, "Trouble Diagnosis Flow Chart"</u> .<br>NO >> GO TO 2   |    |
| 2.CHECK COMBINATION METER  | G  |
| Check combination meter operation. Refer to <u>MWI-19, "CONSULT Function (METER/M&amp;A)"</u> .<br>Is the inspection result normal?  | Н  |
| YES >> GO TO 3<br>NO >> Replace combination meter. Refer to <u>MWI-82, "Removal and Installation"</u> .  |    |
| 3. CHECK LOW TIRE PRESSURE WARNING LAMP  |    |
| Disconnect BCM harness connector.<br><u>Does the low tire pressure warning lamp activate?</u><br>YES >> Replace BCM. Refer to <u>BCS-80, "Removal and Installation"</u> .<br>NO >> Check combination meter operation.  | J  |
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## 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:000000009177457

## 1. CHECK BCM CONNECTORS

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connectors.
- 3. Check terminals for damage or loose connections.
- Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace damaged connectors.

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

Check BCM power supply and ground circuits. Refer to BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

- YES >> Replace BCM. Refer to <u>BCS-80, "Removal and Installation"</u>.
- NO >> Repair BCM circuits.

## EASY FILL TIRE ALERT DOES NOT ACTIVATE

#### < SYMPTOM DIAGNOSIS > EASY FILL TIRE ALERT DOES NOT ACTIVATE А Description INFOID:000000009177458 The easy fill tire alert does not function while inflating a tire when the select lever position is in P-range with the В ignition switch ON. Refer to WT-9, "Easy Fill Tire Alert Function". **Diagnosis** Procedure INFOID:000000009177459 1. LOCATION CHANGE Move the vehicle to another area and repeat the procedure of the tire inflation indicator function. Refer to WT-D 9. "Easy Fill Tire Alert Function". Is the function normal? YFS >> Inspection End. WΤ NO >> GO TO 2. 2.PERFORM SELF DIAGNOSTIC RESULT (P) With CONSULT F Perform Self Diagnostic Result. Are any DTCs detected? YES >> Refer to BCS-52, "DTC Index". NO >> GO TO 3. 3.CHECK HAZARD WARNING LAMP OPERATION Н Check hazard warning lamp operation with hazard switch. Do the hazard warning lamps operate? YES >> GO TO 4. NO >> Refer to DLK-206, "Diagnosis Procedure". **4.**PERFORM SELF DIAGNOSTIC RESULT FOR TCM (R) With CONSULT Perform Self Diagnostic Result for TRANSMISSION. Are any DTCs detected? Κ YES >> Refer to TM-43, "CONSULT Function". NO >> GO TO 5. 5.CHECK HORN OPERATION Check horn operation. Refer to SEC-135, "Component Function Check". Is the inspection result normal? YES >> GO TO 6. Μ NO >> Repair or replace malfunctioning components. **O.**PERFORM SELF DIAGNOSTIC RESULT Ν (P) With CONSULT 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. Perform Self Diagnostic Result. Ο Are any DTCs detected? YES >> Refer to BCS-52, "DTC Index" Ρ NO >> Replace BCM. Refer to BCS-80, "Removal and Installation".

## NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

#### < SYMPTOM DIAGNOSIS >

## NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

## NVH Troubleshooting Chart

INFOID:000000009177460

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

| Reference page                     |               |                                  | <u>WT-58, "Adjustment"</u> | <u>WT-58, "Adjustment"</u> | <u>WT-58, "Adjustment"</u> | WT-65, "Tire Air Pressure" | <u>WT-58, "Adjustment"</u> |                | I                   | <u>WT-65, "Tire Air Pressure"</u> | DLN-101, "NVH Troubleshooting Chart" | DLN-114, "NVH Troubleshooting Chart" | EAX-5. "NVH Troubleshooting Chart" or<br>EAX-5. "NVH Troubleshooting Chart" | RAX-4, "NVH Troubleshooting Chart" or<br>RSU-4, "NVH Troubleshooting Chart" | WT-56, "NVH Troubleshooting Chart" | WT-56, "NVH Troubleshooting Chart" | EAX-5, "NVH Troubleshooting Chart" or<br>RAX-4, "NVH Troubleshooting Chart". | BR-6, "NVH Troubleshooting Chart" | ST-41, "NVH Troubleshooting Chart" |
|------------------------------------|---------------|----------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------|---------------------|-----------------------------------|--------------------------------------|--------------------------------------|---|---|------------------------------------|------------------------------------|--|-----------------------------------|------------------------------------|
| Possible cause and SUSPECTED PARTS |               | Improper installation, looseness | Out-of-round               | Imbalance                  | Incorrect tire pressure    | Uneven tire wear           | Deformation or damage      | Non-uniformity | Incorrect tire size | PROPELLER SHAFT                   | DIFFERENTIAL                         | FRONT AXLE AND FRONT SUSPENSION      | REAR AXLE AND REAR SUSPENSION   | TIRE  | ROAD WHEELS                        | DRIVE SHAFT                        | BRAKE  | STEERING                          |                                    |
|                                    |               | Noise                            | ×                          | ×                          | ×                          | ×                          | ×                          | ×              | ×                   |                                   | ×                                    | ×                                    | ×   | ×   |                                    | ×                                  | ×  | ×                                 | ×                                  |
|                                    |               | Shake                            | ×                          | ×                          | ×                          | ×                          | ×                          | ×              |                     | ×                                 | ×                                    |                                      | ×   | ×   |                                    | ×                                  | ×  | ×                                 | ×                                  |
|                                    |               | Vibration                        |                            |                            |                            | ×                          |                            |                |                     | ×                                 | ×                                    |                                      | ×   | ×   |                                    |                                    | ×  |                                   | ×                                  |
|                                    | TIRE          | Shimmy                           | ×                          | ×                          | ×                          | ×                          | ×                          | ×              | ×                   | ×                                 |                                      |                                      | ×   | ×   |                                    | ×                                  |  | ×                                 | ×                                  |
|                                    |               | Shudder                          | ×                          | ×                          | ×                          | ×                          | ×                          | ×              |                     | ×                                 |                                      |                                      | ×   | ×   |                                    | ×                                  |  | ×                                 | ×                                  |
| Symptom                            |               | Poor quality ride or handling    | ×                          | ×                          | ×                          | ×                          | ×                          | ×              |                     | ×                                 |                                      |                                      | ×   |   | ×                                  | ×                                  |  |                                   |                                    |
|                                    |               | Noise                            | ×                          | ×                          | ×                          |                            |                            | ×              |                     |                                   | ×                                    | ×                                    | ×   | ×   | ×                                  |                                    | ×  | ×                                 | ×                                  |
|                                    |               | Shake                            | ×                          | ×                          | ×                          |                            |                            | ×              |                     |                                   | ×                                    |                                      | ×   | ×   | ×                                  |                                    | ×  | ×                                 | ×                                  |
|                                    | ROAD<br>WHEEL | Shimmy, Shudder                  | ×                          | ×                          | ×                          |                            |                            | ×              |                     |                                   |                                      |                                      | ×   | ×   | ×                                  |                                    |  | ×                                 | ×                                  |
|                                    |               | Poor quality ride or handling    | ×                          | ×                          | ×                          |                            |                            | ×              |                     |                                   |                                      |                                      | ×   | ×   | ×                                  |                                    |  |                                   |                                    |

×: Applicable

# < PERIODIC MAINTENANCE > PERIODIC MAINTENANCE WHEEL

#### Inspection

- 1. Check tires for wear and improper inflation.
- Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.
- 3. Remove tire from wheel and mount wheel on a tire balance machine.

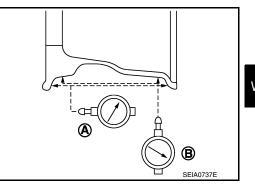
**CAUTION:** DO NOT use center hole cone-type clamping machines to hold the wheel assembly during tire removal/installation or balancing or damage to the wheel paint, cladding or chrome may result. Use only rim-type or universal lug-type clamping machines to hold the wheel assembly during servicing.

- a. Set dial indicator as shown.
- b. Check runout, if the lateral runout (A) or radial runout (B) exceeds the limit, replace wheel.

Lateral runout (A)

Radial runout (B)

Refer to <u>WT-65, "Road</u> <u>Wheel"</u> Refer to <u>WT-65, "Road</u> <u>Wheel"</u>



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< PERIODIC MAINTENANCE >

## WHEEL AND TIRE ASSEMBLY

## Adjustment

INFOID:000000009177462

#### BALANCING WHEELS (ADHESIVE WEIGHT TYPE)

Preparation Before Adjustment

Remove inner and outer balance weights from the road wheel. Using releasing agent, remove double-faced adhesive tape from the road wheel.

#### **CAUTION:**

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

Wheel Balance Adjustment

#### CAUTION:

- DO NOT use center hole cone-type clamping machines to hold the wheel assembly during tire removal/installation or balancing or damage to the wheel paint, cladding or chrome may result. Use only rim-type or universal lug-type clamping machines to hold the wheel assembly during servicing.
- If a balancer machine has an adhesive weight mode setting, select the adhesive weight mode setting and skip Step 2 below. If a balancer machine only has the clip-on (rim flange) weight mode setting, follow Step 2 to calculate the correct size adhesive weight.
- 1. Set road wheel on balancer machine using the center hole as a guide. Start the balancer machine.
- 2. For balancer machines that only have a clip-on (rim flange) weight mode setting, follow this step to calculate the correct size adhesive weight to use. When inner and outer imbalance values are shown on the balancer machine indicator, multiply outer imbalance value by 5/3 (1.67) to determine balance weight that should be used. Select the outer balance weight with a value closest to the calculated value above and install in to the designated outer position of or at the designated angle in relation to the road wheel.
- a. Indicated imbalance value  $\times$  5/3 (1.67) = balance weight to be installed

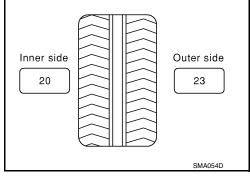
#### **Calculation example:**

23 g (0.81 oz)  $\times$  5/3 (1.67) = 38.33 g (1.35 oz)  $\Rightarrow$  40 g (1.41 oz) balance weight (closer to calculated balance weight value) **NOTE:** 

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

#### Example:

 $\begin{array}{l} 37.4 \Rightarrow 35 \text{ g} (1.23 \text{ oz}) \\ 37.5 \Rightarrow 40 \text{ g} (1.41 \text{ oz}) \end{array}$ 



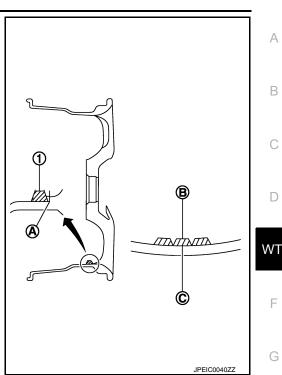
## WHEEL AND TIRE ASSEMBLY

#### < PERIODIC MAINTENANCE >

- 3. Install balance weight in the position shown. 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 road wheel.
  - When installing balance weight (1) to road wheel, set it into the grooved area (A) on the inner wall of the road wheel as shown so that the balance weight center (B) is aligned with the balancer machine indication position (angle) (C).

## CAUTION:

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



Adhesion weight

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Wheel balancer indication position (angle)

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4. 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.

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

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

- 7. Start balancer machine. Make sure that inner and outer residual imbalance values are 5 g (0.17 oz) each or below.
- 8. If either residual imbalance value exceeds 5 g (0.17 oz), repeat installation procedures.

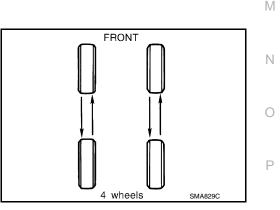
| Wheel balance                    | Dynamic (At flange)   | Static (At flange) |
|----------------------------------|-----------------------|--------------------|
| Maximum allowable im-<br>balance | Refer to <u>WT-65</u> | , "Road Wheel".    |

#### TIRE ROTATION

- Follow the maintenance schedule for tire rotation service intervals. Refer to MA-9, "FOR USA AND CANADA : Introduction of Periodic Maintenance" for USA AND CANADA, or MA-12, "FOR MEXICO : Periodic Maintenance" for MEXICO.
- Rotate the wheel and tires front to back in the pattern as shown.
- When installing the wheel, tighten wheel nuts to the specified torque.

#### CAUTION:

- Do not include the spare tire when rotating the tires.
- When installing wheels, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.
- Be careful not to tighten the wheel nuts to a torque exceeding specification to prevent strain on the disc rotor.
- Use Genuine NISSAN wheel nuts for aluminum wheels.



< PERIODIC MAINTENANCE >

Wheel nut tightening : 113 N·m (12 kg-m, 83 ft-lb) torque

• Perform the ID registration after tire rotation. Refer to <u>WT-30, "Work Procedure"</u>.

## < REMOVAL AND INSTALLATION >

# REMOVAL AND INSTALLATION TIRE PRESSURE SENSOR

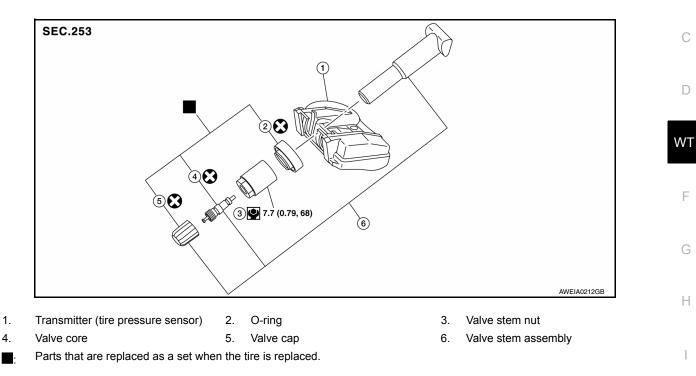
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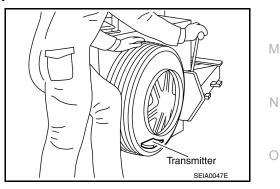
## Removal and Installation

#### REMOVAL

- 1. Remove road wheel and tire assembly using power tool.
- Remove valve cap and valve core to deflate the tire.
   NOTE:
   If the tire is to be reused, apply a matching mark on the

If the tire is to be reused, apply a matching mark on the tire in line with the position of the road wheel valve stem assembly for the purpose of road wheel and tire balance adjustment after installation.

3. Remove the valve stem nut and allow transmitter to fall into tire.



- Lubricate the tire outside bead well with a suitable non-silicone lubricant, and remove outside of tire from P the road wheel. Reach inside the tire and remove the transmitter.
   CAUTION:
  - Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and road wheel.
  - Be sure not to damage the road wheel or transmitter.
  - Do not allow lubricant to make contact with transmitter.
- 5. Lubricate the tire inside bead well with a suitable non-silicone lubricant, and remove inside of tire from the road wheel.

## TIRE PRESSURE SENSOR

#### < REMOVAL AND INSTALLATION >

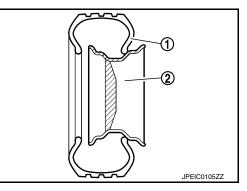
#### CAUTION:

- Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and road wheel.
- Be sure not to damage the road wheel.
- 6. Remove the valve stem from the transmitter as shown.

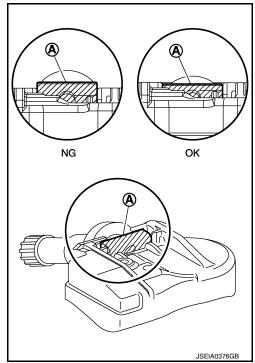


#### INSTALLATION

- Apply a suitable non-silicone lubricant to the tire inside bead.
   CAUTION: Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.
- 2. Install the tire inside bead (1) onto the road wheel (2) in the position shown.



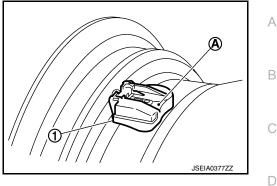
- 3. Install the valve stem to the transmitter.
- 4. Install the O-ring to the transmitter. **CAUTION:** 
  - Do not reuse O-ring
  - Insert O-ring to the base of the transmitter.
  - The base of the valve stem (A) must be positioned in the groove of the metal plate as shown.



## TIRE PRESSURE SENSOR

#### < REMOVAL AND INSTALLATION >

- Install transmitter (1) to road wheel while pressing at position (A).
  - CAUTION:
  - Check that O-ring contacts horizontally with road wheel.
  - Check that the base of the valve stem is positioned in the groove of the metal plate.



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6. Install and tighten the valve stem nut to the specified torque.

# Valve stem nut : 7.7 N·m (0.79 kg-m, 68 in-lb) tightening torque

#### **CAUTION:** Do not use power tool for installation.

 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.

- 8. Apply a suitable non-silicone lubricant to the tire outside bead. CAUTION:
  - Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.
  - Do not allow lubricant to make contact with transmitter.
- 9. Install the tire outside bead onto the road wheel as normal. **NOTE:** 
  - If the tire is being reused, align the matching mark applied on

the tire with the position of the road wheel valve stem assembly for the purpose of road wheel and tire balance adjustment after installation. Ensure that the tire does not rotate relative to road wheel.

10. Install the valve core and inflate tire.

#### CAUTION: Do not reuse valve core.

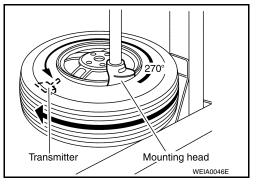
 Install the valve cap. CAUTION:

Do not reuse valve cap.

- 12. Balance the road wheel and tire assembly. Refer to WT-58, "Adjustment".
- 13. Install wheel and tire assembly in appropriate wheel position on vehicle. Refer to <u>WT-58, "Adjustment"</u>. **MOTE:**

If replacing the transmitter, then transmitter ID registration procedure must be performed. Refer to <u>WT-30</u>, <u>"Work Procedure"</u>.

14. Adjust neutral position of steering angle sensor. Refer to BRC-55, "Work Procedure".



< REMOVAL AND INSTALLATION >

## TIRE PRESSURE RECEIVER

## Removal and Installation

INFOID:000000009177465

The Tire Pressure Receiver is an integral part of the remote keyless entry receiver. Refer to <u>SEC-14</u>, "VEHI-<u>CLE SECURITY SYSTEM : System Description"</u>.

## SERVICE DATA AND SPECIFICATIONS (SDS)

## < SERVICE DATA AND SPECIFICATIONS (SDS)

# SERVICE DATA AND SPECIFICATIONS (SDS) SERVICE DATA AND SPECIFICATIONS (SDS)

## Road Wheel

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| Item                        |                         | Limit  |       |  |  |  |
|-----------------------------|-------------------------|--|-------|--|--|--|
| Radial runout               | Lateral runout mm (in)  | $l_{acc}$ then 0.2 mm (0.012 in)                       |       |  |  |  |
| Radial fundul               | Radial runout mm (in)   | Less than 0.3 mm (0.012 in)                            |       |  |  |  |
|                             | Dynamic (at rim flange) | Less than 5 g (0.18 oz) (one side)                     |       |  |  |  |
| Maximum allowable imbalance | Static (at rim flange)  | Less than 10 g (0.35 oz)                               |       |  |  |  |
| Wheel nut torque            |                         | 113 Nm (12 kg-m, 83 ft-lb)                             |       |  |  |  |
| Fire Air Pressure           |                         | INFOID:000000091                                       | 77467 |  |  |  |
| Tire Air Pressure           |                         | ואדסום:0000000001;<br>Unit: kPa (kgf/cm <sup>2</sup> , |       |  |  |  |

| ltem                     | Standard       |          |   |  |  |  |  |
|--------------------------|----------------|----------|---|--|--|--|--|
| item                     | Front          | Rear     |   |  |  |  |  |
| 235/65R18 (Conventional) | 230 (2         | G        |   |  |  |  |  |
| 235/55R20 (Conventional) | 240 (2.45, 35) |          |   |  |  |  |  |
| T165/90D18 (Spare)       | 420 (4         | .28, 60) | F |  |  |  |  |

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