# SECTION WHEELS & TIRES

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WΤ

# CONTENTS

PRECAUTION4
<b>PRECAUTIONS</b> 4         Precaution for Supplemental Restraint System       (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-SIONER"         SIONER"       4         Precautions for Removing Battery Terminal       4         Service Notice and Precautions for TPMS       5         Service Notice and Precautions for Road Wheel       5         Service Notice and Precautions for Tires       6
PREPARATION7
PREPARATION       7         Special Service Tool       7         Commercial Service Tools       7
SYSTEM DESCRIPTION8
COMPONENT PARTS8Component Parts Location8BCM9Tire Pressure Sensor9Remote Keyless Entry Receiver (Tire Pressure Receiver)10Outside Key Antennas10
SYSTEM11System Description11Tire Inflation Indicator Function12Circuit Diagram13
WARNING/INDICATOR/CHIME LIST
INFORMATION DISPLAY (COMBINATION METER)14

INFORMATION DISPLAY (COMBINATION METER) : Low Tire Pressure Warning14 INFORMATION DISPLAY (COMBINATION METER) : Tire Pressure Display15	F
OPERATION17 Switch Name and Function17	Н
DIAGNOSIS SYSTEM (TIRE PRESSURE MONITORING SYSTEM)	1
ECU DIAGNOSIS INFORMATION21	J
TIRE PRESSURE MONITORING SYSTEM21Reference Value	K
WIRING DIAGRAM24	
TIRE PRESSURE MONITORING SYSTEM24 Wiring Diagram	L
BASIC INSPECTION	M
DIAGNOSIS AND REPAIR WORK FLOW36 Work Flow	N
TIRE PRESSURE SENSOR WAKE UP OP- ERATION	0
TIRE PRESSURE SENSOR ID REGISTRA-	Ρ
<b>TION</b> 40Description40Work Procedure40	
CONFIGURATION (TIRE PRESSURE MONI- TORING SYSTEM)42	

Work Procedure (Before Replacement) ......42

Work Procedure (After Replacement) 42
DTC/CIRCUIT DIAGNOSIS 44
C1704, C1705, C1706, C1707 LOW TIRE PRESSURE
C1708, C1709, C1710, C1711 TIRE PRES- SURE SENSOR
C1716, C1717, C1718, C1719 TIRE PRES- SURE SENSOR
C1729 VEHICLE SPEED SIGNAL
C1730, C1731, C1732, C1733 FLAT TIRE 51 DTC Description
C1734 CONTROL UNIT
C1735 IGNITION SIGNAL
C1761, C1762, C1763, C1764 TIRE PRES- SURE SENSOR
C1769 CONFIGURATION SETTING
C1770, C1771, C1772, C1773 G SENSOR 58 DTC Description 58 Diagnosis Procedure 58
U1000 CAN COMM CIRCUIT
U1010 CONTROL UNIT (CAN)
LOW TIRE PRESSURE WARNING LAMP 61 Component Function Check
SYMPTOM DIAGNOSIS62

Symptom T	able62
	PRESSURE WARNING LAMP
	TURN ON 64
Diagnosis F	Procedure64
	PRESSURE WARNING LAMP
-	Procedure
	PRESSURE WARNING LAMP
•	Procedure
-	TION INDICATOR DOES NOT
	6367 Procedure67
0	
	RATION CANNOT BE COMPLET-
•	Procedure6
-	
	ARNING LAMP REMAINS ON 6
•	
Diagnosis F	Procedure6
	RATION AND HARSHNESS
(NVH) TROI	UBLESHOOTING70
	leshooting Chart70
NVH Troub	
NVH Troub	MAINTENANCE
NVH Troub PERIODIC ROAD WHE	MAINTENANCE         7'           EL         7'
NVH Troub PERIODIC ROAD WHE Inspection .	MAINTENANCE         7'           EL         7'           7'         7'
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala	MAINTENANCE       7         EL       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         Yew       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         Yew       7         Installation       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       74         EL TIRE ASSEMBLY       74         Yiew       74
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar Inspection . REMOTE K	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         Yew       7         Total Installation       7         Total Section       7         EYLESS ENTRY RECEIVER       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar Inspection . REMOTE K	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         Yew       7         Installation       7         FYLESS ENTRY RECEIVER       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar Inspection . REMOTE KI (TIRE PRES	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         Tiew       7         On Installation       7         EYLESS ENTRY RECEIVER       7         SURE RECEIVER)       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar Inspection . REMOTE KI (TIRE PRES Removal ar	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         Tiew       7         Total Installation       7         SURE RECEIVER       7         SURE RECEIVER       7         And Installation       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar Inspection . REMOTE KI (TIRE PRES Removal ar IREMOTE S	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         Tiew       7         Installation       7         SURE RECEIVER       7         SURE SENSOR       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar Inspection . REMOTE KI (TIRE PRES Removal ar TIRE PRES Exploded V	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         iew       7         Tiew       7         EYLESS ENTRY RECEIVER       7         SURE RECEIVER)       7         SURE SENSOR       7         iew       7
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar Inspection . REMOTE KI (TIRE PRES Removal ar TIRE PRES Exploded V	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         iew       7         Tiew       7         EYLESS ENTRY RECEIVER       7         SURE RECEIVER)       7         SURE SENSOR       7         iew       7
NVH Trouble PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar Inspection . REMOTE KI (TIRE PRES Removal ar TIRE PRES Exploded V Removal ar	MAINTENANCE       7'         EL       7'         ince Adjustment (Aluminum Wheel)       7'         on       7'         AND INSTALLATION       7'         EL TIRE ASSEMBLY       7'         Yiew       7'         AND Installation       7'
NVH Troub PERIODIC ROAD WHE Inspection . Wheel Bala Tire Rotatio REMOVAL ROAD WHE Exploded V Removal ar Inspection . REMOTE KI (TIRE PRES Removal ar TIRE PRES Exploded V Removal ar OUTSIDE K	MAINTENANCE       7         EL       7         ince Adjustment (Aluminum Wheel)       7         on       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         Tiew       7         AND INSTALLATION       7         EL TIRE ASSEMBLY       7         Tiew       7         Distallation       7         SURE RECEIVER)       7         Mod Installation       7         SURE SENSOR       7         Tiew       7         And Installation       7         Automatical Sensor       7         Tiew       7         Automatical Sensor       7         Tiew       7         Tiew       7

SERVICE DATA AND SPECIFICATIONS	
(SDS)	.82

#### SERVICE DATA AND SPECIFICATIONS

(SDS)82	Α
Road Wheel82	
Tire Air Pressure82	
	В

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#### < PRECAUTION >

# PRECAUTION PRECAUTIONS

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

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

#### WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, 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 "SRS AIR BAG".
- Never 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:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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 or batteries, and wait at least 3 minutes before performing any service.

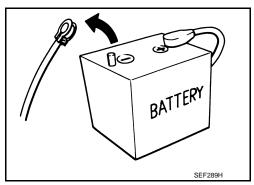
#### Precautions for Removing Battery Terminal

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When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:

BR08DE	: 4 minutes	V9X engine	: 4 minutes
D4D engine	: 20 minutes	YD25DDTi	: 2 minutes
HR09DET	: 12 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		



#### NOTE:

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

 After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.
 NOTE:

#### PRECAUTIONS

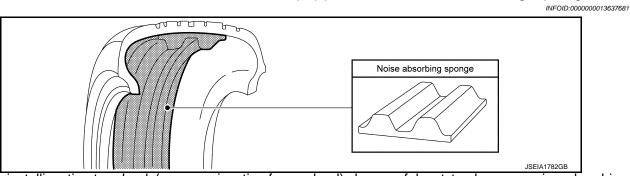
#### < PRECAUTION >

• Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.	
<ul> <li>Example of high-load driving</li> <li>Driving for 30 minutes or more at 140 km/h (86 MPH) or more.</li> </ul>	А
<ul> <li>Driving for 30 minutes or more on a steep slope.</li> <li>For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.</li> <li>NOTE:</li> </ul>	В
<ul> <li>If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.</li> <li>After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC. NOTE:</li> </ul>	С
The removal of 12V battery may cause a DTC detection error.	D
Service Notice and Precautions for TPMS	
<ul> <li>Low tire pressure warning lamp turns ON when tire pressure is less than warning tire pressure value. Adjust tire pressure for all wheels to the specified value. Refer to <u>WT-82, "Tire Air Pressure"</u>.</li> <li>Low tire pressure warning lamp blinks for 1 minute, then turns ON when occurring any malfunction or no</li> </ul>	WT
<ul> <li>sensor(s) except low tire pressure. Repair malfunction or if no sensor(s), Install tire pressure sensor and register the ID to turn low tire pressure warning lamp OFF. For ID registration, refer to <u>WT-40</u>, "<u>Description</u>".</li> <li>ID registration is required when replacing or rotating tires and/or wheels, replacing tire pressure sensor or BCM. Refer to <u>WT-40</u>, "<u>Description</u>".</li> </ul>	F
<b>NOTE:</b> ID registration is unnecessary if there are no change in the positions of each wheels (tire pressure sensors) before wheel removal and after wheel installation.	G
<ul> <li>Be sure to replace grommet seal, valve core and valve cap of tire pressure sensor, when removing tire pressure sensor from wheel. Refer to <u>WT-77, "Exploded View"</u>.</li> <li>Replacing grommet seal, valve core and valve cap of tire pressure sensor is recommended, when replacing</li> </ul>	Η
<ul> <li>each tire by reaching the wear limit. Refer to <u>WT-77, "Exploded View"</u>.</li> <li>Never apply excessive force to an inflator not to damage valve stem and tire pressure sensor when adjusting tire pressure.</li> </ul>	I
<ul> <li>Jack up the vehicle in order not to damage tire pressure sensor when extracting all the tire air on the vehicle (e.g. when filling up work of N2 gas to tire). For supporting points for lifting and jacking point, refer to <u>GI-30</u>, <u>"Garage Jack and Safety Stand and 2-Pole Lift"</u>.</li> </ul>	J
<ul> <li>Because the tire pressure sensor conforms to radio law of each countries, the following items must be observed.</li> </ul>	
<ul> <li>The sensor may be used only in each countries.</li> <li>It may not be used in any method other than the specified method.</li> <li>It must not be disassembled or modified.</li> </ul>	K
<ul> <li>Never attach tire pressure sensor of other cars. Tire Pressure Monitoring System (TPMS) does not function if specified Genuine NISSAN tire pressure sensor is not attached.</li> </ul>	L
Service Notice and Precautions for Road Wheel	ЪЛ
<ul> <li>Genuine NISSAN aluminum wheel is designed for each type of vehicle. Use it on the specified vehicle only.</li> <li>Use Genuine NISSAN parts for the wheel nuts.</li> </ul>	Μ
<ul> <li>Always use them after adjusting the wheel balance. For the balance weights, use Genuine NISSAN alumi- num wheel weights.</li> </ul>	Ν
• 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 deter-	
<ul> <li>gent if a detergent is needed.</li> <li>After driving on roads scattered with anti-icing salts, wash off the wheels completely.</li> <li>When installing road wheels onto the vehicle, always wipe off any dirt or foreign substances to prevent them</li> </ul>	0
<ul><li>from being trapped between the contact surfaces of wheel.</li><li>Never apply oil to nut and bolt threads.</li></ul>	Ρ
<ul> <li>When tightening the valve cap there is a risk of damaging the valve cap if a tool is used. Tighten by hand.</li> </ul>	

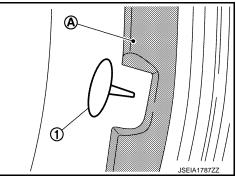
#### PRECAUTIONS

#### < PRECAUTION >

Service Notice and Precautions for Tires Equipped with Noise Absorbing Sponge



- When installing tire to wheel (or removing tire from wheel), be careful not to damage noise absorbing sponge.
- When storing tires equipped with noise absorbing sponge after being removed from wheels, cover the tires to prevent the entrance of water and dust and avoid direct sunlight.
- The repair work of tires equipped with noise absorbing sponge is special. To repair a flat tire, comply with the instructions provided by the tire maker.
- To repair, remove noise absorbing sponge (A) from repairing part and apply plug patch (1) to inner side of tire.
- Never use flat tire repairing agent.
- To dispose of tires equipped with noise absorbing sponge, comply with regulations for the disposal of regular tires.



#### PREPARATION

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# Special Service Tool

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The actual shapes of TechMate tools may differ from those of special service tools illustrated here.

Tool number (TechMate No.) Tool name		Description	С
— (J-50190) Signal tech II		<ul> <li>Activate and display TPMS tire pressure sensor IDs</li> <li>Display tire pressure reported by the TPMS tire pressure sensor</li> <li>Read TPMS DTCs</li> <li>Register TPMS tire pressure sensor IDs</li> <li>Test remote keyless entry keyfob relative</li> </ul>	D
	ALEIA0131ZZ	<ul> <li>signal strength</li> <li>Compatible with future sensors</li> <li>Equipped with a display</li> </ul>	F
KV48105501 (J-45295-A) Tire pressure sensor activation tool		<ul> <li>Activate TPMS tire pressure sensor IDs</li> <li>Compatible with future sensors</li> <li>Equipped with a display (KV48105501 only)</li> </ul>	G
	ALEIA0183ZZ		Η
Commercial Service Tools		INFOID:000000012797088	I

Tool name		Description	J
Power tool		Loosening wheel nuts	
			K
	PBIC0190E		L

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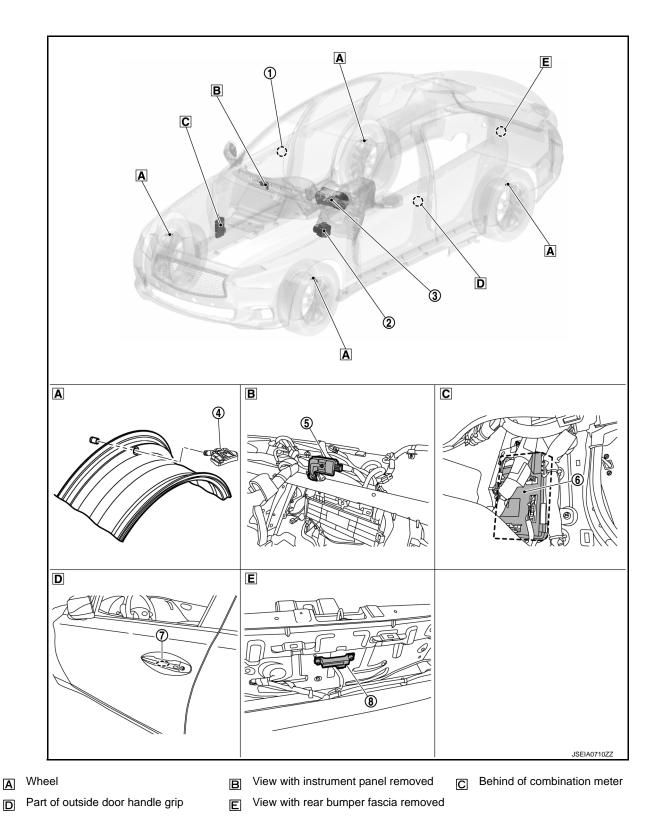
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#### < SYSTEM DESCRIPTION >

# SYSTEM DESCRIPTION COMPONENT PARTS

**Component Parts Location** 

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#### **COMPONENT PARTS**

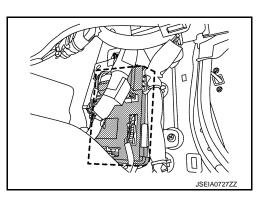
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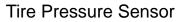
No.	Component parts	Function	/
1	Outside key antenna (passenger side)	Refer to WT-10, "Outside Key Antennas".	
2	ABS actuator and electric unit (control unit)	Mainly transmits the following signals to BCM via CAN communication. <ul> <li>Vehicle speed signal</li> </ul>	
3	Combination meter	<ul> <li>Mainly receives the following signals from BCM via CAN communication.</li> <li>Low tire pressure warning lamp signal</li> <li>TPMS malfunction warning lamp signal</li> <li>The combination meter will display the low tire pressure warning lamp when a low tire pressure or system malfunction is detected by the BCM.</li> <li>A warning message will also be displayed in the information display.</li> </ul>	(
4	Tire pressure sensor	Refer to WT-9, "Tire Pressure Sensor".	
5	Remote keyless entry receiver (tire pressure receiver)	Refer to <u>WT-10, "Remote Keyless Entry Receiver (Tire Pressure Receiver)"</u> .	W
6	ВСМ	Refer to <u>WT-9, "BCM"</u> .	
7	Outside key antenna (driver side)	Refer to WT-10, "Outside Key Antennas".	
8	Outside key antenna (rear bumper)	Refer to WT-10, "Outside Key Antennas".	

#### BCM

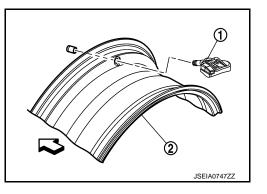
The BCM reads the tire pressure signal received by the remote keyless entry receiver (tire pressure receiver). In addition, the BCM also uses the outside key antennas (driver side, passenger side and rear bumper) to identify the location of the tire pressure sensors.

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





A tire pressure sensor ① integrated with a valve is installed in each wheel ②, 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 (tire pressure receiver).



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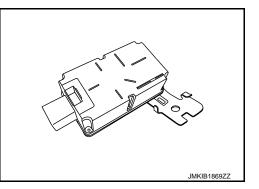
#### **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

#### Remote Keyless Entry Receiver (Tire Pressure Receiver)

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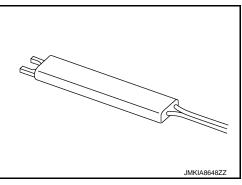
The remote keyless entry receiver receives (tire pressure receivers) the tire pressure signal transmitted by the tire pressure sensor in each wheel.



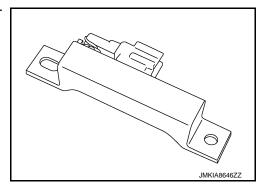
#### Outside Key Antennas

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- For vehicles equipped with individual tire pressure display in the combination meter, the outside key antennas (driver side, passenger side and rear bumper) are used by the BCM to identify the location of the tire pressure sensor.
- Outside key antenna (driver side) and outside key antenna (passenger side) is installed in outside handle.



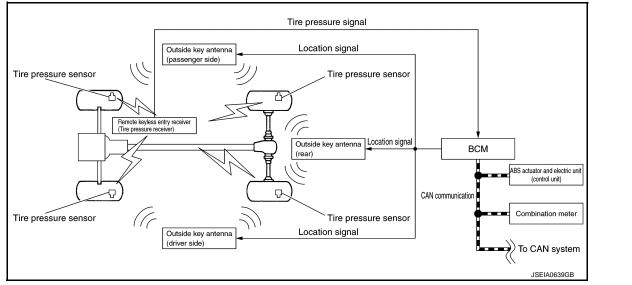
• Outside key antenna (rear bumper) is installed in the rear of rear bumper.



#### 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 installed in each wheel. If the BCM detects low tire 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 information display.

#### SYSTEM DIAGRAM



#### INPUT SIGNAL AND OUTPUT SIGNAL

Major signal transmission between each unit via communication lines is shown in the following table.

Component	Signal description	J
Combination meter	<ul> <li>Mainly receives the following signals from BCM via CAN communication.</li> <li>Low tire pressure warning lamp signal</li> <li>TPMS malfunction warning lamp signal</li> <li>Tire pressure data signal</li> <li>Buzzer output signal</li> <li>Transmits the vehicle speed signal via CAN communication for BCM.</li> </ul>	K
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal via CAN communication for combination meter.	L

#### LOW TIRE PRESSURE WARNING LAMP AND INFORMATION DISPLAY INDICATIONS Uses CAN communication from the BCM to illuminate the low tire pressure warning lamp on the combination meter.

Condition	Low tire pressure warning lamp	Information display
Ignition switch OFF	OFF	OFF
Ignition switch ON (system normal)	ON for 1 second then turns off	No TPMS message
Low tire pressure	ON	WT-14, "INFORMATION DISPLAY (COMBINATION METER) : Low Tire Pressure Warning"
Configuration not per- formed in tire pressure monitoring system		No TPMS message
Tire pressure sensor ID not registered in BCM	Blinks for 1 minute then stays ON	
TPMS malfunction		WT-14, "INFORMATION DISPLAY (COMBINATION METER) : Low Tire Pressure Warning"

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#### < SYSTEM DESCRIPTION >

#### HAZARD WARNING LAMP INDICATION CONDITION

The hazard warning lamp blinks under the following conditions.

• When ID registration is completed. Refer to <u>WT-40, "Description"</u>.

#### **BUZZER CONTROL CONDITION**

The low tire pressure warning control unit transmits a buzzer request signal to BCM. Based on the signal, BCM sends a command to the combination meter to sound the buzzer. The buzzer sounds under the following conditions.

#### Condition of Sounding Buzzer

- When wake-up of registered wheel has been completed. Refer to WT-39. "Description".
- When tire goes flat.

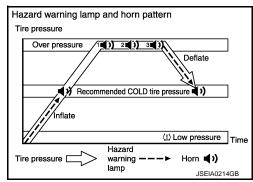
#### Tire Inflation Indicator Function

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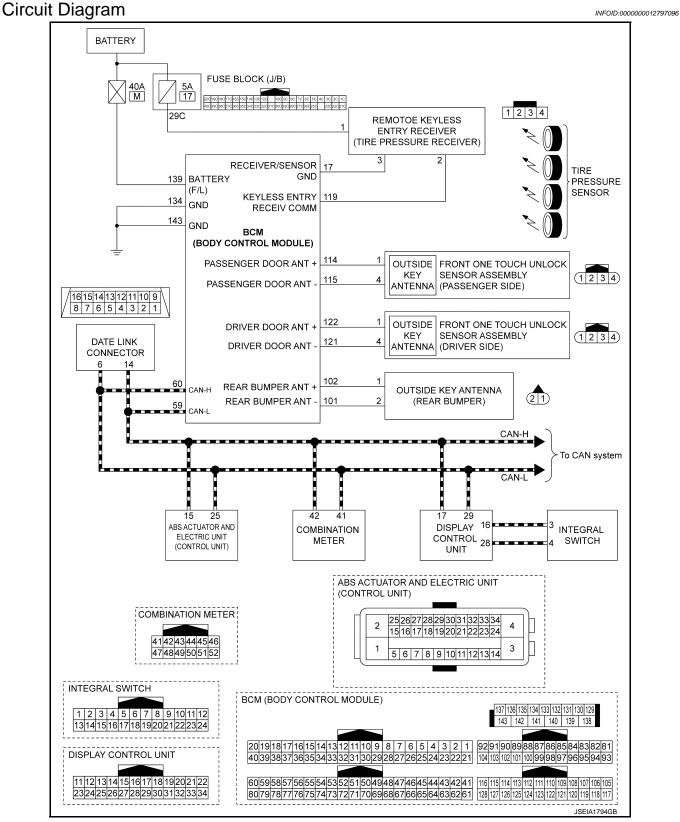
#### NOTE:

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

- The Tire inflation indicator 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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# WARNING/INDICATOR/CHIME LIST

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#### < SYSTEM DESCRIPTION >

#### WARNING/INDICATOR/CHIME LIST : Warning Lamp/Indicator Lamp

INFOID:000000012797097

Name	Design	Layout/Function
Low tire pressure warn-	$\langle ! \rangle$	For layout, refer to <u>MWI-9, "METER SYSTEM : Design"</u> . For function, refer to <u>MWI-33, "WARNING LAMPS/INDICATOR LAMPS : Low Tire Pressure</u>
		Warning Lamp".

#### WARNING/INDICATOR/CHIME LIST : Warning/Indicator (On Information Display)

INFOID:000000013526094

Name	Layout/Function
Low tire pressure warning	Refer to WT-14, "INFORMATION DISPLAY (COMBINATION METER) : Low Tire Pressure Warning".
Tire pressure display	Refer to WT-15, "INFORMATION DISPLAY (COMBINATION METER) : Tire Pressure Display".

# INFORMATION DISPLAY (COMBINATION METER)

INFORMATION DISPLAY (COMBINATION METER) : Low Tire Pressure Warning

INFOID:000000012797098

#### DESIGN/PURPOSE

The warning message is displayed in the vehicle information display with the low tire pressure warning lamp when following conditions;

- Tire pressure is low.
- Tire pressure is extremely low (flat tire).

Symbol	Warning Message
JSEIA0664ZZ	Tire Pressure Low Add Air
JSEIA1288ZZ	Frat Tire Visit dealer <sup>*</sup>

\*: With runflat tire

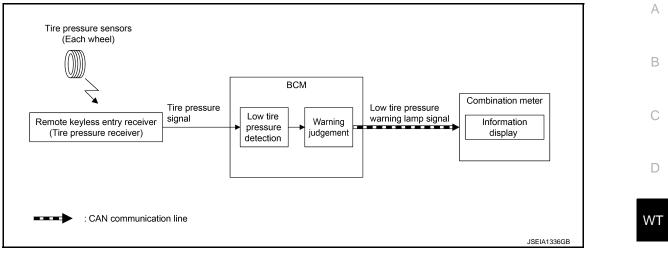
Details for warning conditions, refer to <u>MWI-33</u>, "WARNING LAMPS/INDICATOR LAMPS : Low Tire Pressure <u>Warning Lamp</u>".

SYNCHRONIZATION WITH MASTER WARNING LAMP Applicable to low tire pressure warning lamp lighting by low air pressure. Refer to MWI-36, "WARNING LAMPS/INDICATOR LAMPS : Master Warning Lamp".

#### WT-14

#### < SYSTEM DESCRIPTION >





#### SIGNAL PATH

- Remote keyless entry receiver (tire pressure receiver) receives a signal transmitted from the tire pressure sensors installed in each wheel.
- If BCM detects following condition, it sends the signal to the combination meter via CAN communication.
- Tire pressure is low
- Tire pressure is extremely low (flat tire).
- Combination meter turns the low tire pressure warning lamp ON according to the signal. In addition, warning message will be displayed in the information display.

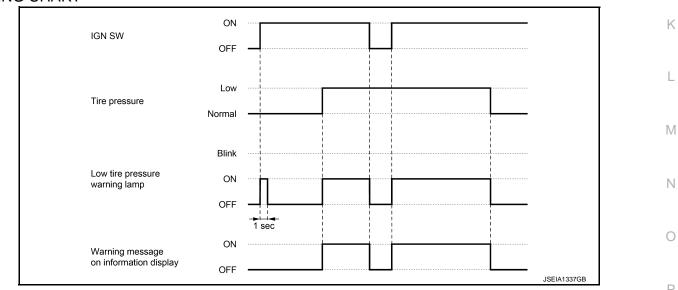
#### WARNING/INDICATOR OPERATION CONDITION

Tire pressure is low.

#### WARNING/INDICATOR CANCEL CONDITION

- Erasing DTC records.
- Tire pressure of all the tires reaches the reference value. For the reference value of tire pressure, refer to <u>WT-82, "Tire Air Pressure"</u>.





#### INFORMATION DISPLAY (COMBINATION METER) : Tire Pressure Display

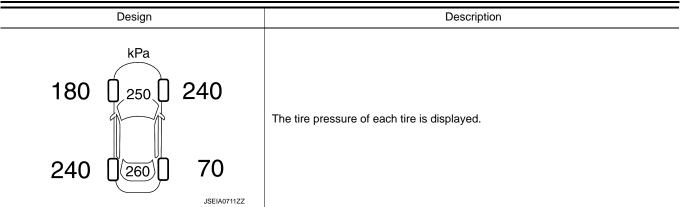
INFOID:0000000012797099

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The adoption of this function allows tire pressure indication on the information display installed to the combination meter.

#### < SYSTEM DESCRIPTION >



#### < SYSTEM DESCRIPTION >

# OPERATION

#### Switch Name and Function

#### DESCRIPTION

Following item can be set on the integral switch.

Switch name	Item	Description	С
TPMS setting	Tire Pressure Unit	Tire air pressure unit can be adjusted. • kPa • psi • bar • kgf/cm <sup>2</sup>	D
SETTING FOLLOW On the integral switch screen			WT
Tire Pressure Ur 1. Push the M 2. Touch "TPM	ENU button and touch "M	eter Settings" on the lower display.	F
3. Touch "Tire	Pressure Unit".	touch select "kPa", "psi", "bar" or "kgf/cm <sup>2</sup> ".	G

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# DIAGNOSIS SYSTEM (TIRE PRESSURE MONITORING SYSTEM) < SYSTEM DESCRIPTION >

#### DIAGNOSIS SYSTEM (TIRE PRESSURE MONITORING SYSTEM)

#### CONSULT Function (TIRE PRESSURE MONITORING SYSTEM)

INFOID:000000012797103

#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description		
ECU identification*	Parts number of BCM can be read.		
Active Test	Send the drive signal from CONSULT to the actuator. The operation check can be performed.		
Self Diagnostic Result	<ul> <li>Retrieve DTC from ECU and display diagnostic items.</li> <li>Self-diagnostic results and freeze frame data can be read and erased quickly.*</li> </ul>		
Data Monitor	Monitor the input/output signal of the control unit in real time.		
Work Support	This mode enables a technician to adjust some devices faster and more accurately.		
Re/programming, Configuration	<ul> <li>Read and save the vehicle specification (TYPE ID).</li> <li>Write the vehicle specification (TYPE ID) when replacing BCM.</li> </ul>		

\*: This item us displayed, but not used.

#### ECU IDENTIFICATION

BCM part number can be read.

#### ACTIVE TEST

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].	
RUN FLAT TIRE W/L	This item is displayed, but cannot be use this item.	
RUN FLAT/T WARN BUZZER	This test is able to run flat tire warning chime operation [On/Off].	

#### SELF DIAGNOSTIC RESULT

#### NOTE:

Before performing Self Diagnostic Result, be sure to register the tire pressure sensor ID or the actual malfunction may be different from that displayed on CONSULT. Refer to WT-22, "DTC Index".

#### FREEZE FRAME DATA (FFD)

The following vehicle status is recorded when DTC is detected and is displayed on CONSULT.

Item name	Display item
SET AIR PRESSURE 2 FL	Set air pressure 2 front left
SET AIR PRESSURE 2 FR	Set air pressure 2 front right
SET AIR PRESSURE 2 RR	Set air pressure 2 rear right
SET AIR PRESSURE 2 RL	Set air pressure 2 rear left
WARNING AIR PRESSURE FL	Warning air pressure front left
WARNING AIR PRESSURE FR	Warning air pressure front right
WARNING AIR PRESSURE RR	Warning air pressure rear right
WARNING AIR PRESSURE RL	Warning air pressure rear left
AIR PRESS FL	Air pressure front left
AIR PRESS RL	Air pressure front right
AIR PRESS RR	Air pressure rear right
AIR PRESS RL	Air pressure rear left

# DIAGNOSIS SYSTEM (TIRE PRESSURE MONITORING SYSTEM)

#### < SYSTEM DESCRIPTION >

Item name	Display item	٥
SET TEMPERATURE	Set temperature	А
TIRE TEMPERATURE FL	Tire temperature front left	
TIRE TEMPERATURE FR	Tire temperature front right	В
TIRE TEMPERATURE RR	Tire temperature rear right	
TIRE TEMPERATURE RL	Tire temperature rear left	
SENSOR LOW BATTERY FL	Low battery front left	С
SENSOR LOW BATTERY FR	Low battery front right	
SENSOR LOW BATTERY RR	Low battery rear right	D
SENSOR LOW BATTERY RL	Low battery rear left	
IGN COUNTER (0 - 39)	<ul> <li>The number of times that ignition switch is turned ON after the DTC is detected is displayed.</li> <li>When "0" is displayed: It indicates that the system is presently malfunctioning.</li> <li>When except "0" is displayed: It indicates that system malfunction in the past is detected, but the system is presently normal.</li> <li>NOTE:</li> <li>Each time when ignition switch is turned OFF to ON, numerical number increases in 1→2→338→39. When the operation number of times exceeds 39, the number do not increase and "39" is displayed until self diagnosis is erased.</li> </ul>	WT F

# DATA MONITOR **NOTE**:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item (Unit)	Description
VHCL SPEED SE (km/h)	Vehicle speed is displayed.
AIR PRESS FL (kPa, kgf/cm <sup>2</sup> or Psi)	Indicates air pressure of front LH tire.
AIR PRESS FR (kPa, kgf/cm <sup>2</sup> or Psi)	Indicates air pressure of front RH tire.
AIR PRESS RR (kPa, kgf/cm <sup>2</sup> or Psi)	Indicates air pressure of rear RH tire.
AIR PRESS RL (kPa, kgf/cm <sup>2</sup> or Psi)	Indicates air pressure of rear LH tire.
LOW TIRE PRESSURE W/L (Off/On)	Indicates condition of low tire pressure warning lamp in combination meter.
BUZZER 2(Off/On)	Indicates condition of buzzer in combination meter.
HORN (Off/On)	Indicates condition of horn.
HAZARD (Off/On)	Indicates condition of hazard.
WARNING AIR PRESSURE FL (kPa, kgf/cm <sup>2</sup> or Psi)	Indicates warning air pressure front LH tire.
WARNING AIR PRESSURE FR (kPa, kgf/cm <sup>2</sup> or Psi)	Indicates warning air pressure front RH tire.
WARNING AIR PRESSURE RR (kPa, kgf/cm <sup>2</sup> or Psi)	Indicates warning air pressure rear RH tire.
WARNING AIR PRESSURE RL (kPa, kgf/cm <sup>2</sup> or Psi)	Indicates warning air pressure rear LH tire.
SET AIR PRESSURE 1 FL (kPa, kgf/cm <sup>2</sup> or Psi)	Reference pressure front LH tire.
SET AIR PRESSURE 1 FR (kPa, kgf/cm <sup>2</sup> or Psi)	Reference pressure front RH tire.
SET AIR PRESSURE 1 RR (kPa, kgf/cm <sup>2</sup> or Psi)	Reference pressure rear RH tire.
SET AIR PRESSURE 1 RL (kPa, kgf/cm <sup>2</sup> or Psi)	Reference pressure rear LH tire.

#### WORK SUPPORT

Support Item	Description	
ID REGIST	Refer to <u>WT-40, "Description"</u> .	

## RE/PROGRAMMING, CONFIGURATION

Configuration includes the following functions.

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# DIAGNOSIS SYSTEM (TIRE PRESSURE MONITORING SYSTEM)

#### < SYSTEM DESCRIPTION >

Function		Description
Read/Write Configuration	Before replacing ECU	<ul><li>Allows the reading of vehicle specification (Type ID) written in BCM.</li><li>Allows the reading of vehicle specification (Type ID) store in CONSULT.</li></ul>
Read/ White Configuration	After replacing ECU	Allows the writing of vehicle information (Type ID) stored in CONSULT into the BCM.
Manual Configuration		Allows the writing of vehicle specification (Type ID) into the BCM by hand.

< ECU DIAGNOSIS INFORMATION >

# ECU DIAGNOSIS INFORMATION TIRE PRESSURE MONITORING SYSTEM

**Reference Value** 

INFOID:000000012797104

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#### VALUES ON THE DIAGNOSIS TOOL

#### **CAUTION:**

The reference values in the table below come from the control unit calculation data. The normal values may in some cases be displayed even though the power circuit (harness) is open or shorted. NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item		Data monitor
	Condition	Reference values for normal operation
VHCL SPEED SE	Drive the vehicle.	Vehicle speed (km/h) or (MPH)
AIR PRESS FL	• Drive at a speed of 40 km/h (25 MPH)	
AIR PRESS FR	or more then drive normally for 10 min- utes.	
AIR PRESS RR	• Turn the ignition switch ON and use the	Tire pressure (kPa), (kgf/cm <sup>2</sup> ) or (Psi)
AIR PRESS RL	activation tool to transmit the registra- tion signal.	
LOW TIRE PRESSURE W/L	Ignition switch ON	Low tire pressure warning lamp ON: On Low tire pressure warning lamp OFF: Off
BUZZER 2	Ignition switch ON	Combination meter buzzer ON: On Combination meter buzzer OFF: Off
HORN	Ignition switch ON	<ul><li>Horn ON: On</li><li>Horn OFF: Off</li></ul>
HAZARD	Ignition switch ON	Hazard lamp ON: On Hazard lamp OFF: Off
WARNING AIR PRESSURE FL	Ignition switch ON	Indicates warning air pressure front left tire (kPa), (kgf/cm <sup>2</sup> ) or (Psi)
WARNING AIR PRESSURE FR	Ignition switch ON	Indicates warning air pressure front right tire (kPa), (kgf/cm <sup>2</sup> ) or (Psi)
WARNING AIR PRESSURE RR	Ignition switch ON	Indicates warning air pressure rear right tire (kPa), (kgf/cm <sup>2</sup> ) or (Psi)
WARNING AIR PRESSURE RL	Ignition switch ON	Indicates warning air pressure rear left tire (kPa), (kgf/ cm <sup>2</sup> ) or (Psi)
SET AIR PRESSURE 1 FL	Ignition switch ON	Reference pressure front left tire (kPa), (kgf/cm <sup>2</sup> ) or (Psi)
SET AIR PRESSURE 1 FR	Ignition switch ON	Reference pressure front right tire (kPa), (kgf/cm <sup>2</sup> ) or (Psi)
SET AIR PRESSURE 1 RR	Ignition switch ON	Reference pressure rear right tire (kPa), (kgf/cm <sup>2</sup> ) or (Psi)
SET AIR PRESSURE 1 RL	Ignition switch ON	Reference pressure rear left tire (kPa), (kgf/cm <sup>2</sup> ) or (Psi)

TERMINAL LAYOUT Refer to <u>BCS-36. "Reference Value"</u>.

PHYSICAL VALUES Refer to <u>BCS-36, "Reference Value"</u>.

#### < ECU DIAGNOSIS INFORMATION >

#### DTC Inspection Priority Chart

INFOID:000000012797105

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	Dete	cted items (DTC)
1	C1769 CONFIG SETTING	
2	C1734 CONTROL UNIT	
3	C1735 IGN LINE	
4	U1000 CAN COMM CIRCUIT     U1010 CONTROL UNIT (CAN)	
5	C1729 VHCL SPEED SIG ERR	
6	<ul> <li>C1716 [PRESSDATA ERR] FL</li> <li>C1717 [PRESSDATA ERR] FR</li> <li>C1718 [PRESSDATA ERR] RR</li> <li>C1719 [PRESSDATA ERR] RL</li> </ul>	
7	<ul> <li>C1761 TEMPERATURE DATA FL</li> <li>C1762 TEMPERATURE DATA FR</li> <li>C1763 TEMPERATURE DATA RR</li> <li>C1764 TEMPERATURE DATA RL</li> </ul>	
8	<ul> <li>C1730 FLAT TIRE FL</li> <li>C1731 FLAT TIRE FR</li> <li>C1732 FLAT TIRE RR</li> <li>C1733 FLAT TIRE RL</li> </ul>	
9	<ul> <li>C1708 [NO DATA] FL</li> <li>C1709 [NO DATA] FR</li> <li>C1710 [NO DATA] RR</li> <li>C1711 [NO DATA] RL</li> </ul>	
10	<ul> <li>C1704 LOW PRESSURE FL</li> <li>C1705 LOW PRESSURE FR</li> <li>C1706 LOW PRESSURE RR</li> <li>C1707 LOW PRESSURE RL</li> </ul>	
11	<ul> <li>C1770 G SENSOR FL</li> <li>C1771 G SENSOR FR</li> <li>C1772 G SENSOR RL</li> <li>C1773 G SENSOR RR</li> </ul>	

#### **DTC** Index

INFOID:000000012797106

DTC	Items (CONSULT screen terms)	Low tire pressure warning lamp	Reference
C1704	LOW PRESSURE FL		
C1705	LOW PRESSURE FR	ON	WT-44, "DTC Description"
C1706	LOW PRESSURE RR	ON	WI-44, DTC Description
C1707	LOW PRESSURE RL		
C1708	[NO DATA] FL	The low tire pressure warning	
C1709	[NO DATA] FR	lamp repeats blinking at 0.5-	WT-46, "DTC Description"
C1710	[NO DATA] RR	second intervals for 1 minute,	
C1711	[NO DATA] RL	and then stays illuminated.	
C1716	[PRESSDATA ERR] FL	The low tire procesure warping	
C1717	[PRESSDATA ERR] FR	The low tire pressure warning lamp repeats blinking at 0.5-	WT-49, "DTC Description"
C1718	[PRESSDATA ERR] RR	second intervals for 1 minute, and then stays illuminated.	
C1719	[PRESSDATA ERR] RL	anu men slays munnhaleu.	

#### TIRE PRESSURE MONITORING SYSTEM

#### < ECU DIAGNOSIS INFORMATION >

DTC	Items (CONSULT screen terms)	Low tire pressure warning lamp	Reference
C1729	VHCL SPEED SIG ERR	The low tire pressure warning lamp repeats blinking at 0.5- second intervals for 1 minute, and then stays illuminated.	WT-50, "DTC Description"
C1730	FLAT TIRE FL		
C1731	FLAT TIRE FR	ON	WT-51, "DTC Description"
C1732	FLAT TIRE RR		WI-51, DTC Description
C1733	FLAT TIRE RL		
C1734	CONTROL UNIT	The low tire pressure warning lamp repeats blinking at 0.5- second intervals for 1 minute, and then stays illuminated.	WT-53, "DTC Description"
C1735	IGN LINE	The low tire pressure warning lamp repeats blinking at 0.5- second intervals for 1 minute, and then stays illuminated.	WT-55. "DTC Description"
C1761	TEMPERATURE DATA FL	The low tire pressure warning	
C1762	TEMPERATURE DATA FR	lamp repeats blinking at 0.5-	WT-56, "DTC Description"
C1763	TEMPERATURE DATA RR	second intervals for 1 minute, and then stays illuminated.	WI-50, DTC Description
C1764	TEMPERATURE DATA RL	and then stays inuminated.	
C1769	CONFIG SETTING	The low tire pressure warning lamp repeats blinking at 0.5- second intervals for 1 minute, and then stays illuminated.	WT-57, "DTC Description"
C1770	G SENSOR FL		
C1771	G SENSOR FR	OFF	WT-58, "DTC Description"
C1772	G SENSOR RL	OFF WT-58, "DTC Desc	
C1773	G SENSOR RR		
U1000	CAN COMM CIRCUIT	The low tire pressure warning lamp repeats blinking at 0.5- second intervals for 1 minute, and then stays illuminated.	WT-59. "DTC Description"
U1010	CONTROL UNIT (CAN)	The low tire pressure warning lamp repeats blinking at 0.5- second intervals for 1 minute, and then stays illuminated.	WT-60, "DTC Description"

#### NOTE:

If some DTCs are displayed at the same time, refer to WT-22, "DTC Inspection Priority Chart".

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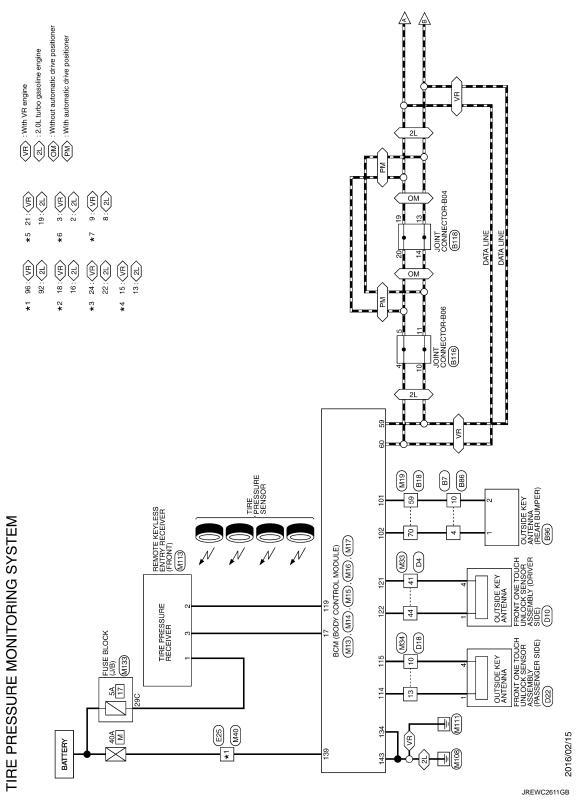
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< WIRING DIAGRAM >

# WIRING DIAGRAM TIRE PRESSURE MONITORING SYSTEM

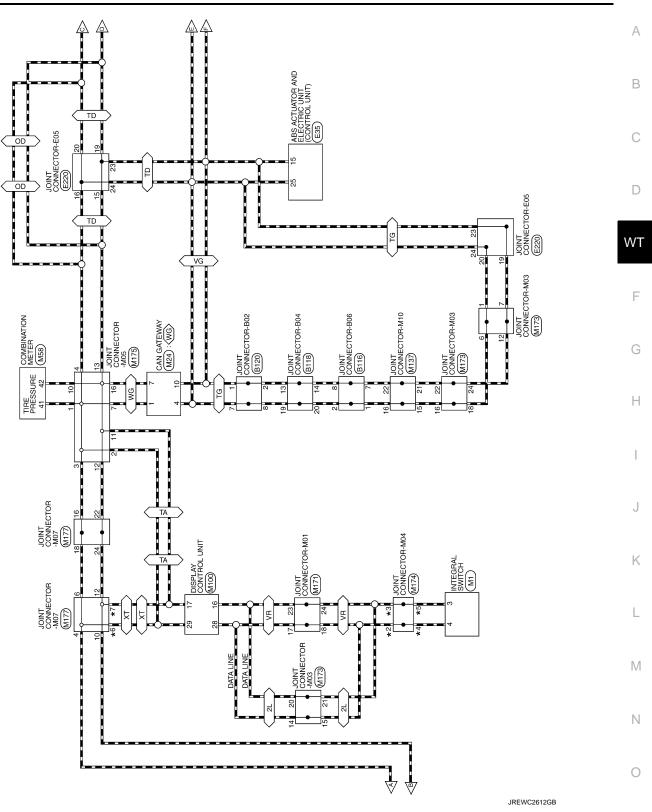
#### Wiring Diagram

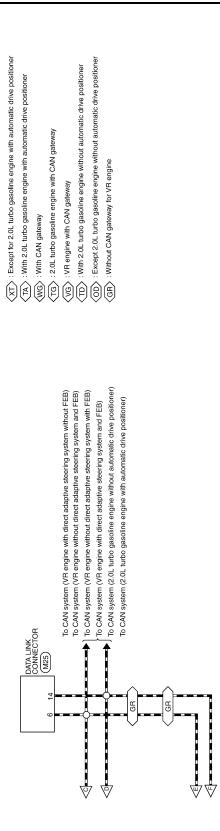
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#### TIRE PRESSURE MONITORING SYSTEM

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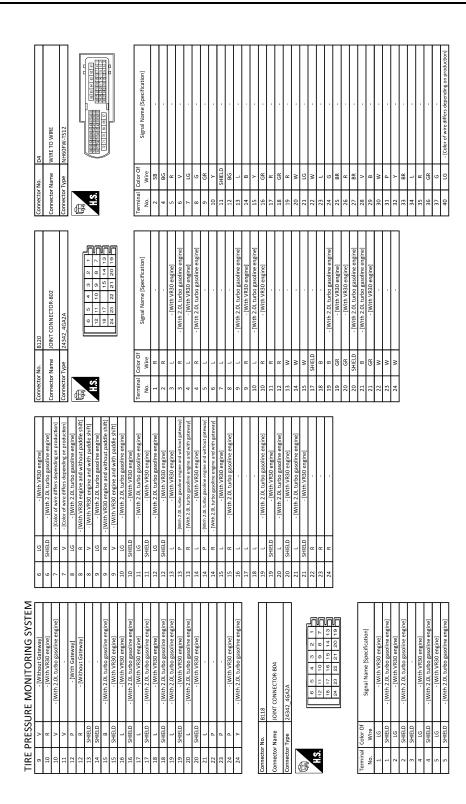
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# TIRE PRESSURE MONITORING SYSTEM

#### < WIRING DIAGRAM >

#### TIRE PRESSURE MONITORING SYSTEM

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TIRE PRESSURE MONITORING SYSTEM
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- (Wth	NIELIO         IWIN 2.0. turb gaoine engine)           W         V         VIVIN 1930 engine)           B         IWIN 2.01 turb gaoine engine)           SB         - IWIN 2.01 turb gaoine engine)           SB         - IWIN 2.01 turb gaoine engine)           Y         - IWIN 2.01 turb gaoine engine)	- [With - [With - [With - [With	I         -(With 2.0L turbe gasoline engine)           P         -(With 2.0L turbe gasoline engine)           R         -(With 2.0L turbe gasoline engine)           I         -(With 2.0L turbe gasoline engine)           V         -(With 2.0L turbe gasoline engine)           I         -(With 2.0L turbe gasoline engine)           I         -(With 2.0L turbe gasoline engine)           R         -(With 2.0L turbe gasoline engine)           S         -(With 2.0L turbe gasoline engine)           V         -(With 2.0L turbe gasoline engine)           V         -(With 2.0L turbe gasoline engine)           B         -(With 2.0L turbe gasoline engine)           V         -(With 2.0L turbe gasoli	R         - [With VR30 engine]           BR         - [With 2.0L tube gasoline engine]           L         L           V         - [With 2.0L tube gasoline engine]           P         - [With 2.0L tube gasoline engine]           W         - [With 2.0L tube gasoline engine]
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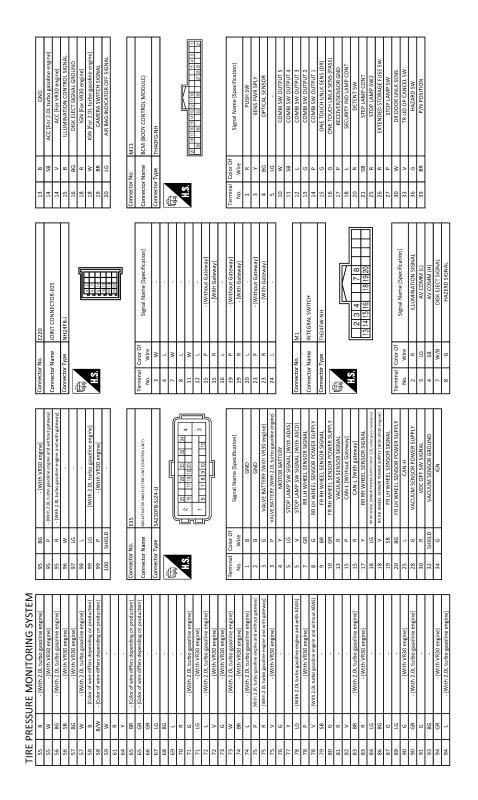
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#### Revision: November 2016

< WIRING DIAGRAM >

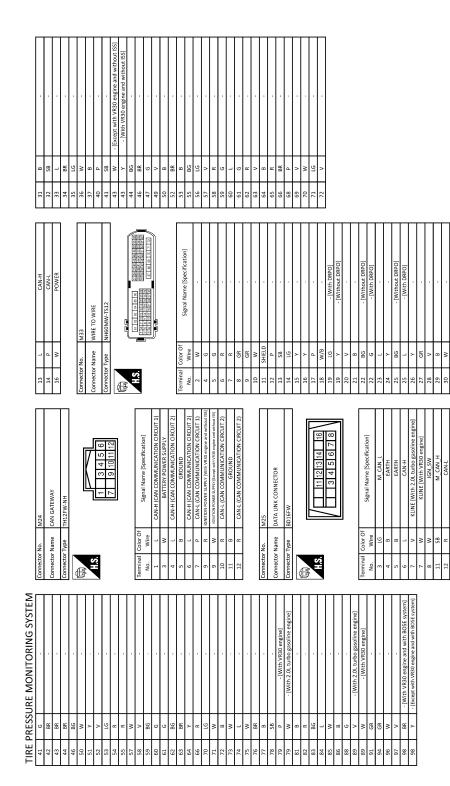
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#### TIRE PRESSURE MONITORING SYSTEM

< WIRING DIAGRAM >



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				55			32	9	<ul> <li>[With 2.0L turbo gasoline engine]</li> </ul>	71	>	<ul> <li>[With VR30 engine]</li> </ul>
	onnector	Type Ni	VH60MW-TS12	90	_	-	32	~	- [With VR30 engine]	71	W	<ul> <li>[With 2.0L turbo gasoline engine]</li> </ul>
				63			33	L	- [With VR30 engine]	72	L	<ul> <li>[With 2.0L turbo gasoline engine]</li> </ul>
	F			64			33	7	- [With 2.0L turbo gasoline engine]	72	16	- [With VR30 engine]
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BG         : [Without DRPO]         13         BG         : [Without DRPO]         61         W/B         61         W/B         61         W/B         7           W         W         · [Without DRPO]         15         53         · [With V430 ergine]         64         Y         ·	28	BB		14	┢		59	SB		100	SHIELD	
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Revision: November 2016

TIRE PRESSURE MONITORING SYSTEM	RING SYSTEM	08	W IGN Ev. 2.01 https://www.assoline.asso	,	а и	
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19 R DIMMER SIGNAL	SIGNAL	14C	×		16 SB	- [With VR30 engine]
20 BR REVERSE SIGNAL	SIGNAL	15C	R - Terminal Color Of	(*************************************	16 Y	<ul> <li>[With 2.0L turbo gasoline engine]</li> </ul>
8		16C	R - No. Wire	olgnal Name (opecification)	17 SB	- [With VR30 engine]
26 BR CAMERA SWITCH SIGNAL	ICH SIGNAL	17C	L : ] 1 B		17 Y	<ul> <li>[With 2.0L turbo gasoline engine]</li> </ul>
28 SB AV COMM (H)	(H) W	18C	BG - [Without DRPO] 2 B		18 SB	- [With VR30 engine]
ſ	Ŧ	18C	P - [With DRPO] 3 B		18 Y	- [With 2.0L turbo gasoline engine]
30 R IGN [For VR30 engine]	30 engine]	19C	B - 4 B	-	19 G	

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22         8           22         58           23         8           23         8           23         8           23         8           24         58           24         58           24         58           24         58           1         1           1         1           2         1           3         1           3         1           1         4           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           20         11           21         16           22         1           23         16           23         16           23         16           23         16           23         16           <	К
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# TIRE PRESSURE MONITORING SYSTEM

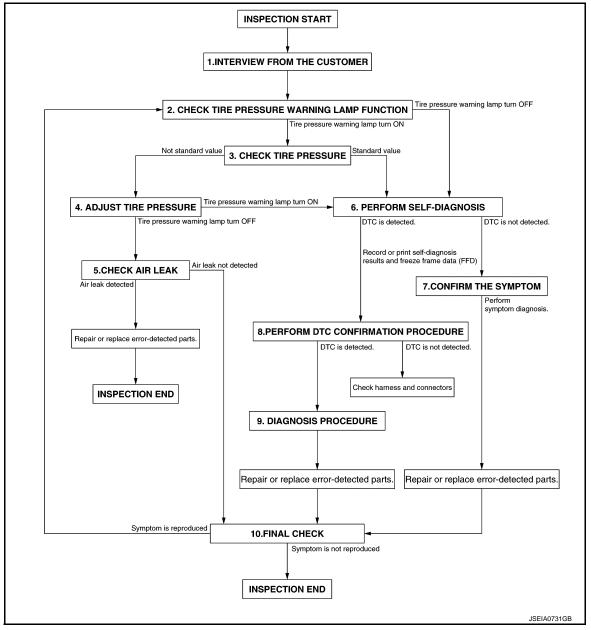
< WIRING DIAGRAM >

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

#### Work Flow

INFOID:000000012797108

#### **OVERALL SEQUENCE**



#### DETAILED FLOW

#### **1.**INTERVIEW FROM THE CUSTOMER

Clarify customer complaints before inspection. To do so, reproduce the symptom before hand and fully understand it. Then interview the customer thoroughly. Check the symptoms by driving vehicle with the customer, if necessary.

#### **CAUTION:**

Customers are not professional. Never guess easily like "maybe the customer means that...," or " maybe the customer mentions this symptom".

>> GO TO 2.

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >	
2. CHECK TIRE PRESSURE WARNING LAMP FUNCTION	
Check that tire pressure warning lamp in combination meter.	A
Tire pressure warning lamp turn ON?	_
YES >> GO TO 3. NO >> GO TO 6.	В
3. CHECK TIRE PRESSURE	
Check the tire pressure of all wheels. Refer to WT-82, "Tire Air Pressure".	— C
NOTE: Check the tire pressure of cold condition.	
Is the inspection standard value?	D
YES >> GO TO 6.	
NO >> GO TO 4. <b>4.</b> ADJUST TIRE PRESSURE	WT
1. Check and adjust the tire pressure for all wheels specified to the value. Refer to WT-82, "Tire Air Pre-	
sure".	F
<ol> <li>Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed 10 minutes.</li> </ol>	or
<u>Tire pressure warning lamp turn OFF?</u>	G
YES >> GO TO 5.	G
NO >> GO TO 6. <b>5.</b> CHECK AIR LEAK	
	Η
Using soapsuds etc., check air leak. NOTE:	
Check air valve.	
<u>Is air leak detected?</u> YES >> Repair or replace error-detected parts. Replace the grommet seal. Perform tire pressure sens ID registration. Refer to <u>WT-40, "Description"</u> . NO >> INSPECTION END	or J
6. PERFORM SELF-DIAGNOSIS	
With CONSULT	K
Perform self-diagnosis for "AIR PRESSURE MONITOR".	
<u>Is DTC detected?</u>	L
<ul> <li>YES &gt;&gt; Record or print self-diagnosis results and freeze frame data (FFD). GO TO 8.</li> <li>NO &gt;&gt; GO TO 7.</li> </ul>	
7.CONFIRM THE SYMPTOM	M
Perform symptom diagnosis. refer to WT-62, "Symptom Table".	_
	Ν
>> Repair or replace error-detected parts. GO TO 10. 8.PERFORM DTC CONFIRMATION PROCEDURE	1.4
	_
With CONSULT Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detect again.	o
Is DTC detected?	Р
YES >> GO TO 9. NO >> Check harness and connectors based on the information obtained by interview. Refer to <u>GI-4</u> <u>"Intermittent Incident"</u> .	. <u>5.</u>
9. DIAGNOSIS PROCEDURE	

Perform DTC Diagnosis Procedure.

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

#### >> Repair or replace error-detected parts. GO TO 10.

# 10.FINAL CHECK

Recheck the symptom and check that the symptom is not reproduced on the same conditions.

Is the symptom reproduced?

YES >> GO TO 2. NO >> INSTPECTION END

# TIRE PRESSURE SENSOR WAKE UP OPERATION

#### < BASIC INSPECTION >

# TIRE PRESSURE SENSOR WAKE UP OPERATION

# Description

When replacing tire pressure sensor, always tire pressure sensor wake-up is required. Refer to <u>WT-39, "Work</u> <u>Procedure"</u>.

#### Work Procedure

**1.**TIRE PRESSURE SENSOR WAKE-UP PROCEDURE

#### Turn the ignition switch ON. CAUTION: Never start the engine. NOTE:

- The position of an inactive tire pressure sensor can be identified by checking the blinking timing of the low tire pressure warning lamp.
- 1 minute later, low tire pressure warning lamp turns ON.

Low tire pressure warning lamp blinking timing Activation tire position ON a : 0.3 sec. а Front LH b b:1.0 sec. OFF ON a : 0.3 sec. a а Front RH b а b:1.0 sec. OFF ON a : 0.3 sec. Н а а а Rear RH а b а b:1.0 sec. OFF ON a : 0.3 sec. а а а а Rear LH а а а b b:1.0 sec. OFF ON a : 2 sec. а All tires b b : 0.2 sec. OFF

- Contact the tire pressure sensor activation tool (J-50190 or J-45295-A) ① to the side of the tire at the location to the tire pressure sensor.
- 3. Press and hold the tire pressure sensor activation tool button while pushing the tool to the tire surface. (approximately for 5 seconds)

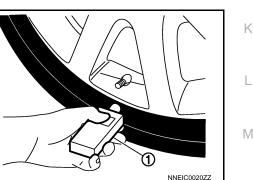
CAUTION:

Perform the wake-up procedure starting from the vehicle front left wheel, then repeat the procedure in the order of the front right wheel, rear right wheel, and rear left wheel.

- Check that the turn signal lamps blink twice when the tire pressure sensor wake-up procedure for all wheels is completed.
- 5. Check that the low tire pressure warning lamp turns OFF, after the tire pressure sensor wake-up procedure is completed for all wheels and turns OFF.

#### Is the tire pressure sensor wake-up procedure completed?

- YES >> Perform the tire pressure sensor ID registration procedure. Refer to <u>WT-40. "Description"</u>.
- NO >> Perform trouble diagnosis for the tire pressure sensor. Refer to <u>WT-46, "Diagnosis Procedure"</u>.



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INFOID:000000012797110

# TIRE PRESSURE SENSOR ID REGISTRATION

#### < BASIC INSPECTION >

# TIRE PRESSURE SENSOR ID REGISTRATION

### Description

This procedure must be performed. Refer to <u>WT-40, "Work Procedure"</u>. • after replacement of a tire pressure sensor or BCM.

Work Procedure

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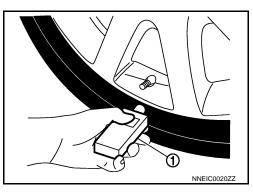
INFOID:000000012797111

- TPMS ID registration can be performed using one of the following procedures:
- Tire pressure sensor 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

#### TPMS REGISTRATION WITH TIRE PRESSURE SENSOR ACTIVATION TOOL (J-45295-A)

#### (I) With CONSULT

- 1. Turn the ignition switch ON.
- 2. Using CONSULT, select "WORK SUPPORT" in AIR PRESSURE MONITOR. Then, select "ID REGIST."
- 3. Select "Start" on "ID REGIST" screen.
- 4. Hold the tire pressure sensor 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 tire pressure sensor 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 blinks	
2	Front RH		"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.

# 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

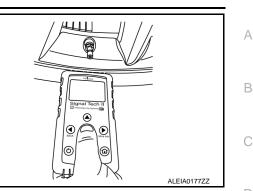
- 1. Adjust the tire pressure for all tires to the recommended value. Refer to WT-82, "Tire Air Pressure".
- 2. Turn the ignition switch ON.
- 3. Using CONSULT, select "WORK SUPPORT" in AIR PRESSURE MONITOR. Then, select "ID REGIST."
- 4. Select "Start" on "ID REGIST" screen.
- 5. Turn on the Signal Tech II tool (J-50190).

#### WT-40

# TIRE PRESSURE SENSOR ID REGISTRATION

#### < BASIC INSPECTION >

- 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			
2	Front RH	2 blinks	"Yet (red)"	WT
3	Rear RH		"Done (green)"	
4	Rear LH	_		_

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

#### **Without CONSULT**

- 1. Adjust the tire pressure for all tires to the recommended value. Refer to WT-82, "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 TPMS, 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 TPMS
- 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 M DTCs.
- 9. Print a Signal Tech II Audit Report for your records. Refer to the Signal Tech II User Guide for instructions.

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# **CONFIGURATION (TIRE PRESSURE MONITORING SYSTEM)**

< BASIC INSPECTION >

# CONFIGURATION (TIRE PRESSURE MONITORING SYSTEM)

Work Procedure (Before Replacement)

CAUTION:

- If BCM is replaced, perform "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT" after the replacement. For details, refer to <u>BCS-81, "Work Procedure"</u>.
- Use "Manual Configuration" only when "TYPE ID" of BCM cannot be read.
- After configuration, perform the following:
- Turn the ignition switch from OFF to ON and check that the low tire pressure warning lamp turns OFF after staying illuminated for approximately two seconds.
- If an error occurs during configuration, start over from the beginning.

### **1.**CHECKING BCM TYPE ID

1. Use FAST (service parts catalogue) to search BCM of the applicable vehicle and find "Type ID".

2. Print out "Type ID".

>> GO TO 2.

#### 2.CHECKING AIR PRESSURE MONITOR TYPE ID

#### CONSULT Configuration

- 1. Select "AIR PRESSURE MONITOR".
- 2. Select "Before Replace ECU" of "Read/Write Configuration".
- 3. Check if "Type ID" of air pressure monitor is displayed on the CONSULT screen.

#### Is "Type ID" displayed?

YES >> GO TO 3.

NO >> Replace BCM. Perform steps starting with "REPLACE BCM" described in <u>BCS-81, "Work Proce-</u> <u>dure"</u>.

# $\mathbf{3}.$ Checking air pressure monitor type id and BCM type id

#### CONSULT Configuration

Compare air pressure monitor "Type ID" displayed on the CONSULT screen with BCM "Type ID" searched for by using FAST (service parts catalogue), and check that these IDs match.

NOTE:

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

#### >> GO TO 4.

**4.**SAVING AIR PRESSURE MONITOR TYPE ID

#### CONSULT Configuration

Save "Type ID" of air pressure monitor on CONSULT.

>> Replace BCM. Perform steps starting with "REPLACE BCM" described in <u>BCS-81, "Work Proce-</u> <u>dure"</u>.

Work Procedure (After Replacement)

INFOID:000000012797114

#### CAUTION:

- Use "Manual Configuration" only when "Type ID" of CAN gateway cannot be read.
- If an error occurs during configuration, start over from the beginning.
- **1.**CHECKING AIR PRESSURE MONITOR TYPE ID

Check if "Type ID" of air pressure monitor is saved on CONSULT.

Is "TYPE ID" saved on CONSULT?

YES >> GO TO 2.

NO >> GO TO 3.

2. WRITING TYPE ID OF AIR PRESSURE MONITOR (AUTOMATIC WRITING)

#### WT-42

INFOID:000000012797113

# **CONFIGURATION (TIRE PRESSURE MONITORING SYSTEM)**

< BASIC INSPECTION >

<ul> <li>CONSULT Configuration</li> <li>Select "After Replace ECU" of "Re/programming, Configuration" or that of "Read / Write Configuration"</li> <li>Compare "Type ID" displayed on the CONSULT screen with BCM "Type ID" searched for by using FA (service parts catalogue), and write matching "Type ID" on BCM.</li> </ul>	
<b>NOTE:</b> For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type I	D". B
>> GO TO 4. $3.$ WRITING TYPE ID OF AIR PRESSURE MONITOR (MANUAL WRITING)	С
<ul> <li>CONSULT Configuration</li> <li>Select "Manual Configuration".</li> <li>Select "Type ID" searched for by using FAST (service parts catalogue) and write the ID on BCM.</li> <li>NOTE: For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type I</li> </ul>	D ID". WT
>> GO TO 4. <b>4.</b> CHECKING AIR PRESSURE MONITOR TYPE ID AND BCM TYPE ID	F
Compare the air pressure monitor "Type ID" displayed on the CONSULT screen with BCM "Type" ID search for by using FAST (service parts catalogue), and check that these IDs match. <b>NOTE:</b> For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".	<b>hed</b> G
>> GO TO 5. <b>5.</b> PERFORM TIRE PRESSURE SENSOR ID REGISTRATION	Н
Perform the tire pressure sensor ID registration. Refer to <u>WT-40, "Description"</u> .	
>> GO TO 6. 6.PERFORM SUPPLEMENTARY WORK	J
<ol> <li>Perform the tire air pressure. Refer to <u>WT-82, "Tire Air Pressure"</u>.</li> <li>Perform the self-diagnosis of all systems.</li> <li>Erase self-diagnosis results.</li> </ol>	K
>> End of work.	L
	Μ
	Ν
	0
	D

# C1704, C1705, C1706, C1707 LOW TIRE PRESSURE

#### < DTC/CIRCUIT DIAGNOSIS >

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

# DTC Description

INFOID:0000000012797115

# DTC DETECTION LOGIC

DTC No.	CONSULT screen item (Trouble diagnosis content)	DTC Detection Condition
C1704	LOW PRESSURE FL (Low tire pressure front left)	Front LH tire pressure drops to 189.6 kPa (1.9 kgf/cm <sup>2</sup> , 27 psi) or less.
C1705	LOW PRESSURE FR (Low tire pressure front right)	Front RH tire pressure drops to 189.6 kPa (1.9 kgf/cm <sup>2</sup> , 27 psi) or less.
C1706	LOW PRESSURE RR (Low tire pressure rear right)	Rear RH tire pressure drops to 189.6 kPa (1.9 kgf/cm <sup>2</sup> , 27 psi) or less.
C1707	LOW PRESSURE RL (Low tire pressure rear left)	Rear LH tire pressure drops to 189.6 kPa (1.9 kgf/cm <sup>2</sup> , 27 psi) or less.

#### POSSIBLE CAUSE

• Low tire pressure (natural air leak)

Air leak because of wheel change

### DTC CONFIRMATION PROCEDURE

**1.**PERFORM SELF DIAGNOSTIC RESULT

#### With CONSULT

Turn the ignition switch ON. CAUTION:

#### Never start the engine.

- 2. Check tire pressure for all wheels and adjust to the specified value. Refer to WT-82, "Tire Air Pressure".
- 3. Perform self-diagnosis for "AIR PRESSURE MONITOR".
- 4. Drive for 3 minutes at a speed of 40 km/h (25 MPH) or more, then drive normally for 10 minutes.
- Is DTC "C1704", "C1705", "C1706", or "C1707" detected?

YES >> Proceed to WT-44, "Diagnosis Procedure".

- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000012797116

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

Perform tire pressure sensor ID registration. Refer to WT-40, "Description".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.

NO >> Replace applicable tire pressure sensor. Refer to WT-78. "Removal and Installation".

2. CHECK TIRE PRESSURE

Check the tire pressure of all wheels. Refer to <u>WT-82, "Tire Air Pressure"</u>.

If the checked value is close to the standard, reduce the tire pressure, and then with the ignition switch ON, adjust the tire pressure again so that it is within the standard.

Is the inspection result normal?

YES >> Perform DTC CONFIRMATION PROCEDURE again. Refer to <u>WT-44. "DTC Description"</u>. NO >> GO TO 3.

3.CHECK TIRE PRESSURE SIGNAL

#### With CONSULT

1. Adjust tire pressure for all wheels to the specified value. Refer to <u>WT-82, "Tire Air Pressure"</u>.

# C1704, C1705, C1706, C1707 LOW TIRE PRESSURE

#### < DTC/CIRCUIT DIAGNOSIS >

#### NOTE:

If tire pressure before adjustment is close to the specified value, then reduce tire pressure first and readjust it to the specified value with the ignition switch ON.

- 2. Select "DATA MONITOR" from "AIR PRESSURE MONITOR".
- 3. Check that the tire pressures match the specified value.

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

#### Is the inspection result normal?

- YES >> After erasing DTC record, INSPECTION END.
- NO >> Repair or replace error-detected parts.

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# C1708, C1709, C1710, C1711 TIRE PRESSURE SENSOR

### < DTC/CIRCUIT DIAGNOSIS >

# C1708, C1709, C1710, C1711 TIRE PRESSURE SENSOR

# **DTC** Description

INFOID:000000012797117

### DTC DETECTION LOGIC

DTC No.	CONSULT screen item (Trouble diagnosis content)	DTC Detection Condition
C1708	[NO - DATA] - FL (No data front left)	Tire pressure data signal from the front LH wheel tire pressure sensor cannot be detected.
C1709	[NO - DATA] - FR (No data front right)	Tire pressure data signal from the front RH wheel tire pressure sensor cannot be detected.
C1710	[NO - DATA] - RR (No data rear right)	Tire pressure data signal from the rear RH wheel tire pressure sensor cannot be detected.
C1711	[NO - DATA] - RL (No data rear left)	Tire pressure data signal from the rear LH wheel tire pressure sensor cannot be detected.

#### POSSIBLE CAUSE

- Driving in area with radio interference.
- Tire pressure sensor ID registration incomplete
- Tire pressure sensor
- Harness or connectors
- Remote keyless entry receiver
- BCM

#### DTC CONFIRMATION PROCEDURE

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

Perform tire pressure sensor ID registration. Refer to WT-40, "Description".

#### >> GO TO 2.

### 2. PERFORM DTC CONFIRMATION

#### (B) 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.
  - NOTE:

Avoid driving in areas with radio interference.

- 2. Stop the vehicle.
- 3. Perform self-diagnosis for "AIR PRESSURE MONITOR".

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

- YES >> Proceed to WT-46, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: INSPECTION END

#### **Diagnosis** Procedure

INFOID:000000012797118

# 1. CHECK REMOTE KEYLESS ENTRY RECEIVER (TIRE PRESSURE RECEIVER) POWER CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Check 5 A fuse (#17).
- 3. Disconnect fuse block (J/B) harness connector.
- Check continuity between remote keyless entry receiver (tire pressure receiver) harness connector and fuse block (J/B) harness connector.

# C1708, C1709, C1710, C1711 TIRE PRESSURE SENSOR

### < DTC/CIRCUIT DIAGNOSIS >

(Tire pressu	s entry receiver ire receiver)		Fuse b	olock (J/B)	Continuity
Connector	Terminal	Coni	nector	Terminal	Continuity
M113	1	M	133	29C	Existed
s the inspection result	t normal?				
YES >> GO TO 2. NO >> Repair or 2.CHECK REMOTE I	replace harness or co KEYLESS ENTRY RE			SSURE RECEIVER)	CIRCUIT
connector.	uity between BCM ha				ssure receiver) harness y receiver (tire pressure
BC	CM	R		ss entry receiver ure receiver)	Continuity
Connector	Terminal	Conr	ector	Terminal	
M13	17	N 4 4	113	3	Existed
M16	119		113	2	EXISIEO
3. Check the continu	ity between BCM har	ness conne	ctor and g	round.	
	BCM				Continuity
Connector	Termina	al			Continuity
M13	17			Ground	Not existed
M16 119					
•	replace error-detected	•			
Perform tire pressure s Can the tire pressure s YES >> GO TO 4. NO >> Replace a RECHECK TIRE P With CONSULT . Drive at a speed o	sensor ID registration sensor ID registration applicable tire pressure RESSURE SIGNAL	. Refer to <u>W</u> be complet e sensor. R	efer to <u>WT</u>	-78, "Removal and I	nstallation". vehicle at any speed for
Perform tire pressure s <u>Can the tire pressure s</u> YES >> GO TO 4. NO >> Replace a <b>1</b> .RECHECK TIRE P <b>With CONSULT</b> . Drive at a speed of 10 minutes. <b>NOTE:</b> Avoid driving in ar 2. Stop the vehicle. 3. Select "DATA MOI	sensor ID registration sensor ID registration applicable tire pressure RESSURE SIGNAL	. Refer to <u>M</u> be complet e sensor. R or more for rence. ESSURE M	efer to <u>WT</u> 3 minutes 10NITOR"	-78, "Removal and I , and then drive the	
Perform tire pressure s Can the tire pressure s YES >> GO TO 4. NO >> Replace a <b>1</b> .RECHECK TIRE P With CONSULT . Drive at a speed of 10 minutes. NOTE: Avoid driving in ar 2. Stop the vehicle. 3. Select "DATA MOI	sensor ID registration sensor ID registration applicable tire pressure RESSURE SIGNAL of 40 km/h (25 MPH) of reas with radio interfer NITOR" from "AIR PR pressures match the	. Refer to <u>M</u> be complet e sensor. R or more for rence. ESSURE M	efer to <u>WT</u> 3 minutes 10NITOR"	-78, "Removal and I , and then drive the	
Perform tire pressure s Can the tire pressure s YES >> GO TO 4. NO >> Replace a <b>1.</b> RECHECK TIRE Pl <b>With CONSULT</b> I. Drive at a speed of 10 minutes. <b>NOTE:</b> Avoid driving in ar 2. Stop the vehicle. 3. Select "DATA MOI 4. Check that the air	sensor ID registration sensor ID registration applicable tire pressure RESSURE SIGNAL of 40 km/h (25 MPH) of eas with radio interfer NITOR" from "AIR PR pressures match the	. Refer to <u>W</u> be complet e sensor. R or more for rence. ESSURE N specified va	efer to <u>WT</u> 3 minutes 40NITOR" alue.	-78, "Removal and I , and then drive the	vehicle at any speed fo
NO >> Replace a <b>4.</b> RECHECK TIRE Pl <b>With CONSULT</b> 1. Drive at a speed of 10 minutes. <b>NOTE:</b> Avoid driving in ar 2. Stop the vehicle. 3. Select "DATA MOI 4. Check that the air Monitor item	sensor ID registration sensor ID registration applicable tire pressure RESSURE SIGNAL of 40 km/h (25 MPH) of eas with radio interfer NITOR" from "AIR PR pressures match the	. Refer to <u>M</u> be complet e sensor. R or more for rence. ESSURE M specified va	efer to <u>WT</u> 3 minutes 40NITOR" alue.	-78, "Removal and I , and then drive the Displayed value	vehicle at any speed fo
Perform tire pressure s Can the tire pressure s YES >> GO TO 4. NO >> Replace a RECHECK TIRE P With CONSULT Drive at a speed o 10 minutes. NOTE: Avoid driving in ar Select "DATA MOI Check that the air Monitor item AIR PRESS F	sensor ID registration sensor ID registration applicable tire pressure RESSURE SIGNAL of 40 km/h (25 MPH) of reas with radio interfer NITOR" from "AIR PR pressures match the CL Approxima R Approxima	. Refer to <u>M</u> be complet e sensor. R or more for rence. ESSURE M specified va ately equal to t	efer to <u>WT</u> 3 minutes 40NITOR" alue.	-78, "Removal and I , and then drive the Displayed value on tire gauge value for f	vehicle at any speed for ront LH tire ront RH tire

YES >> After erasing DTC record, INSPECTION END.

# C1708, C1709, C1710, C1711 TIRE PRESSURE SENSOR

#### < DTC/CIRCUIT DIAGNOSIS >

NO >> Replace BCM. Refer to <u>BCS-99</u>, "Removal and Installation".

# C1716, C1717, C1718, C1719 TIRE PRESSURE SENSOR

# < DTC/CIRCUIT DIAGNOSIS >

# C1716, C1717, C1718, C1719 TIRE PRESSURE SENSOR

# **DTC** Description

INFOID:000000012797119

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DTC DETECTION LOG	IC
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DTC DETEC	CTION LOGIC		В
DTC No.	CONSULT screen item (Trouble diagnosis content)	DTC Detection Condition	С
C1716	[PRESSDATA ERR] FL (Pressure data error front left)	Malfunction in the tire pressure data from the front LH wheel tire pressure sensor.	0
C1717	[PRESSDATA ERR] FR (Pressure data error front right)	Malfunction in the tire pressure data from the front RH wheel tire pressure sensor.	D
C1718	[PRESSDATA ERR] RR (Pressure data error rear right)	Malfunction in the tire pressure data from the rear RH wheel tire pressure sensor.	WT
C1719	[PRESSDATA ERR] RL (Pressure data error rear left)	Malfunction in the tire pressure data from the rear LH wheel tire pressure sensor.	
<ul><li>POSSIBLE</li><li>Excessive f</li><li>Tire pressu</li><li>BCM</li></ul>	tire pressure		F
	RMATION PROCEDURE		
	M SELF DIAGNOSTIC RESUL	.T	Н
CAUTIO Never st	ignition switch ON. <mark>N:</mark> art the engine.	adjust to the specified value. Refer to <u>WT-82, "Tire Air Pressure"</u> .	I
3. Perform <u>Is DTC "C17"</u> YES >> F	self-diagnosis for "AIR PRESS 16", "C1717", "C1718", or "C17 Proceed to <u>WT-49, "Diagnosis</u>	SURE MONITÓR. 7 <u>19" detected?</u> <u>Procedure"</u> .	J
	o check malfunction symptom Confirmation after repair: INSP	before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . ECTION END	Κ
Diagnosis	Procedure	INFOID:000000012797120	
<b>1.</b> TIRE PRE	SSURE SENSOR ID REGIST	RATION	L
Can the tire p	pressure sensor ID registration	a. Refer to <u>WT-40, "Description"</u> .	M
NO >> F	GO TO 2. Replace applicable tire pressui IRE PRESSURE SIGNAL	re sensor. Refer to WT-78, "Removal and Installation".	Ν
2. Select "D	e pressure for all wheels to the DATA MONITOR" from "AIR PF ie values that are displayed fo	e specified value. Refer to <u>WT-82, "Tire Air Pressure"</u> . RESSURE MONITOR". r "AIR PRESS FL", "AIR PRESS FR", "AIR PRESS RR", and "AIR	0
Which tire pre	essures is displayed as 438.60	) kPa (4.47 kgf/cm2, 63.60 psi)?	Ρ
F NO >> F	Refer to WT-78, "Removal and	ne tire pressure as 438.60 kPa (4.47 kgf/cm <sup>2</sup> , 63.60 psi) displayed. Installation". IN PROCEDURE" (self-diagnosis) again. Refer to <u>WT-49. "DTC</u>	

# C1729 VEHICLE SPEED SIGNAL

#### < DTC/CIRCUIT DIAGNOSIS >

# C1729 VEHICLE SPEED SIGNAL

# **DTC** Description

INFOID:000000012797121

#### DTC DETECTION LOGIC

DTC No.	CONSULT screen item (Trouble diagnosis content)	DTC Detection Condition
C1729	VHCL SPEED SIG ERR (Vehicle speed signal error)	Vehicle speed signal not detected.

#### POSSIBLE CAUSE

CAN communication

• ABS actuator and electric unit (control unit) malfunction

BCM

#### 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. Stop the vehicle.
- 3. Perform self-diagnosis for "AIR PRESSURE MONITOR".

#### Is DTC "C1729" detected?

- YES >> Proceed to WT-50, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: INSPECTION END

#### Diagnosis Procedure

INFOID:000000012797122

**1.**PERFORM ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS

#### With CONSULT

Perform self-diagnosis for "ABS".

#### Are any DTCs detected?

YES >> Check the DTC. Refer to <u>BRC-72, "DTC Index"</u>.

NO >> GO TO 2.

2. CHECK BCM INPUT/OUTPUT SIGNAL

Check BCM input/output signal values. Refer to BCS-36, "Reference Value".

#### Is the inspection result normal?

YES >> Check pin terminal and connection of each harness connector for malfunctioning conditions.

NO >> Replace the BCM. Refer to <u>BCS-99, "Removal and Installation"</u>.

# C1730, C1731, C1732, C1733 FLAT TIRE

#### < DTC/CIRCUIT DIAGNOSIS >

# C1730, C1731, C1732, C1733 FLAT TIRE

# DTC Description

If the tire pressure drops below the specified value, the tire pressure monitoring control unit judges that a flat tire occurs and displays a message on the information display.

#### DTC DETECTION LOGIC

			С
DTC No.	CONSULT screen item (Trouble diagnosis content)	DTC Detection Condition	
C1730	FLAT TIRE FL	Front left wheel pressure is 70 kPa (0.7 kgf/cm <sup>2</sup> , 10 psi) or less	D
C1731	FLAT TIRE FR	Front right wheel pressure is 70 kPa (0.7 kgf/cm <sup>2</sup> , 10 psi) or less	
C1732	FLAT TIRE RR	Rear right wheel pressure is 70 kPa (0.7 kgf/cm <sup>2</sup> , 10 psi) or less	WТ
C1733	FLAT TIRE RL	Rear left wheel pressure is 70 kPa (0.7 kgf/cm <sup>2</sup> , 10 psi) or less	
Low tire pr		<u>г</u>	F
4	RODUCTION PROCEDUR	E	G
CAUT	he ignition switch ON.		Н
<ol> <li>Check <u>sure</u>.</li> <li>Perfor</li> </ol>	the tire pressure for all whee m self-diagnosis of the low tire	els and adjust to the specified value. Refer to <u>WT-82, "Tire Air Pres-</u> e pressure warning control unit.	I
YES > NO-1 >		efer to <u>WT-51, "Diagnosis Procedure"</u> . om before repair: Refer to <u>GI-45, "Intermittent Incident"</u> .	J
Diagnos	is Procedure	INFOID:000000012797124	Κ
1.CHECK	K TIRE PRESSURE		
Check the	for pressure of all wheels. Ref	er to WT-82, "Tire Air Pressure".	L
	ection result normal?		
	> GO TO 2. > After adjusting the tire press	ure. GO TO 3.	M
•	RESSURE SENSOR ID REGI	•	
Perform tir	re pressure sensor ID registrat	ion. Refer to <u>WT-40, "Description"</u> .	Ν
	sure sensor ID registration co		
YES >		TION PROCEDURE" (self-diagnosis) again. Refer to WT-51, "DTC	$\cap$
NO >	<u>Description</u> ". Refer to <u>WT-39</u> , "Description"	1".	0
-	T TIRE PRESSURE	_	
<u>ls the insp</u> YES >	ection result normal? > GO TO 4.	wheels specified to the value. Refer to <u>WT-82, "Tire Air Pressure"</u> .	Ρ
	•	heels and tires, and adjust the tire pressures.	
	TIRE PRESSURE SIGNAL		

(B) With CONSULT

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INFOID:000000012797123

# C1730, C1731, C1732, C1733 FLAT TIRE

#### < DTC/CIRCUIT DIAGNOSIS >

- 1. Select "DATA MONITOR" to display the tire pressure for all wheels.
- 2. Check that the tire pressure is the specified value.

Check items	Condition
AIR PRESS FL	
AIR PRESS FR	Approximately equal to the indication on tire gauge value for each tires.
AIR PRESS RR	Approximately equal to the indication on the gauge value for each thes.
AIR PRESS RL	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace error-detected part.

# C1734 CONTROL UNIT

	T DIAGNOSIS >			
C1734 CON	NTROL UNIT			
DTC Descrip	tion			INFOID:000000012797125
DTC DETECTI	ON LOGIC			
DTC No.	CONSULT screen item (Trouble diagnosis content)		DTC Detection Condition	
C1734	CONTROL UNIT (Control unit)	TPMS malfunction in BCM.		
POSSIBLE CA	USE			
BCM				
	ATION PROCEDURE	-		
	ELF DIAGNOSTIC RESU			
With CONSU Perform self-dia S DTC "C1734"	gnosis for "AIR PRESSUR	e monitor".		
YES >> Proc NO-1 >> To c	ceed to <u>WT-53, "Diagnosis</u> heck malfunction symptom firmation after repair: INSF	before repair: Refer to	GI-45, "Intermittent In-	cident".
Diagnosis Pr				INFOID:000000012797126
	I HARNESS CONNECTOR	S		
Check BCM harr	ness connectors for damag	je or loose connections.		
s the inspection	result normal?			
YES >> Rep NO >> GO	air or replace connectors. TO 2.			
СНЕСК ВСМ	POWER SUPPLY AND G	ROUND		
heck BCM pow	ver supply and ground. Ref	er to <u>BCS-92, "Diagnos</u>	is Procedure".	
s the inspection				
YES >> GO NO >> Rep	TO 3. air or replace harness or c	onnectors		
	IOTE KEYLESS ENTRY R		SURE RECEIVER) PC	
	ition switch OFF.			
<ul> <li>Check 5 Å ft</li> <li>Disconnect f</li> <li>Check conti</li> </ul>			pressure receiver) ha	arness connector and
	keyless entry receiver pressure receiver)	Fuse blo	ock (J/B)	Continuity
(110				CONTINUITY
Connector	Terminal	Connector	Terminal	Continuity

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

# 4. CHECK REMOTE KEYLESS ENTRY RECEIVER (TIRE PRESSURE RECEIVER) CIRCUIT

1. Disconnect BCM harness connector and remote keyless entry receiver (tire pressure receiver) harness connector.

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# C1734 CONTROL UNIT

#### < DTC/CIRCUIT DIAGNOSIS >

2. Check the continuity between BCM harness connector and remote keyless entry receiver (tire pressure receiver) harness connector.

E	BCM Remote keyless entry receiver (tire pressure receiver) Con			
Connector	Terminal	Connector	Terminal	
M13	17	M113	3	Existed
M16	119	10113	2	Existed

3. Check the continuity between BCM harness connector and ground.

BCM			Continuity
Connector	Terminal		Continuity
M13	17	Ground	Not existed
M16	119	Gibana	NOI EXISIEU

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace error-detected parts.

5. CHECK BCM INPUT/OUTPUT SIGNALS

Check BCM input/output signals. Refer to BCS-36, "Reference Value".

Is the inspection result normal?

YES >> After erasing DTC record, INSPECTION END.

NO >> Replace BCM. Refer to <u>BCS-99. "Removal and Installation"</u>.

# **C1735 IGNITION SIGNAL**

#### < DTC/CIRCUIT DIAGNOSIS > C1735 IGNITION SIGNAL А **DTC** Description INFOID:000000012797127 DTC DETECTION LOGIC В CONSULT screen item DTC No. **DTC Detection Condition** (Trouble diagnosis content) IGN LINE C1735 BCM has detected a mismatch between IGN ON signals. (Ignition line) D POSSIBLE CAUSE BCM DTC CONFIRMATION PROCEDURE WT 1.PERFORM SELF DIAGNOSTIC RESULT (P)With CONSULT F Perform self-diagnosis in "AIR PRESSURE MONITOR". Is DTC "C1735" detected? YES >> Proceed to WT-55, "Diagnosis Procedure". NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident". NO-2 >> Confirmation after repair: INSPECTION END **Diagnosis** Procedure INFOID:000000012797128 Н **1.**PERFORM BCM SELF-DIAGNOSIS Perform self-diagnosis for "BCM". Is any DTCs detection? YES >> Check the DTCs. Refer to BCS-63, "DTC Index". NO >> INSPECTION END Κ L Μ Ν

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# C1761, C1762, C1763, C1764 TIRE PRESSURE SENSOR

### < DTC/CIRCUIT DIAGNOSIS >

# C1761, C1762, C1763, C1764 TIRE PRESSURE SENSOR

# **DTC** Description

INFOID:000000012797129

INFOID:000000012797130

#### DTC DETECTION LOGIC

DTC No.	CONSULT screen item (Trouble diagnosis content)	DTC Detection Condition
C1761	TEMPERATURE DATA FL (Temperature data front left)	Malfunction in the tire temperature data from the front LH wheel tire pressure sensor.
C1762	TEMPERATURE DATA FR (Temperature data front right)	Malfunction in the tire temperature data from the front RH wheel tire pressure sensor.
C1763	TEMPERATURE DATA RR (Temperature data rear right)	Malfunction in the tire temperature data from the rear RH wheel tire pressure sensor.
C1764	TEMPERATURE DATA RL (Temperature data rear left)	Malfunction in the tire temperature data from the rear LH wheel tire pressure sensor.

#### POSSIBLE CAUSE

- Tire pressure sensor
- BCM

#### DTC CONFIRMATION PROCEDURE

#### **1.**PERFORM SELF DIAGNOSTIC RESULT

#### With CONSULT

Perform self-diagnosis in "AIR PRESSURE MONITOR".

Is DTC "C1761", "C1762", "C1763", or "C1764" detected?

- YES >> Proceed to WT-56, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: INSPECTION END

### **Diagnosis Procedure**

# **1.**PERFORM BCM SELF-DIAGNOSIS

- 1. Replace tire pressure sensor. Refer to <u>WT-78, "Removal and Installation"</u>.
- 2. Perform self-diagnosis for "BCM".

#### Is DTC "C1761", "C1762", "C1763", or "C1764" detected?

- YES >> Replace BCM. Refer to <u>BCS-99</u>, "Removal and Installation".
- NO >> INSPECTION END

# **C1769 CONFIGURATION SETTING**

#### < DTC/CIRCUIT DIAGNOSIS >

# C1769 CONFIGURATION SETTING

# **DTC** Description

INFOID:000000012797131

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# DTC DETECTION LOGIC

DTC	CONSULT screen item (Trouble diagnosis content)	DTC Detection Condition	
C1769	CONFIG SETTING (Configuration setting)	<ul><li>Tire pressure monitoring system configuration do not be performed.</li><li>Receiver ID registration cannot be performed.</li></ul>	
OSSIBLE			
	tion is not completed. gistration is not completed.		
	FIRMATION PROCEDURI		V
.PERFOR	RM SELF DIAGNOSTIC RES	SULT	
	f-diagnosis in "AIR PRESSU	RE MONITOR".	
	7 <u>69" detected?</u> Proceed to <u>WT-57, "Diagno</u>	sis Procedure"	
NO-1 >>		om before repair: Refer to <u>GI-45, "Intermittent Incident"</u> .	
Diagnosis	s Procedure	INFOID:000000012797132	
<b>1</b> .TIRE PR	ESSURE MONITORING SY	STEM CONFIGURATION	
Perform cor	figuration. Refer to <u>WT-42, '</u>	Work Procedure (Before Replacement)".	
>>	GO TO 2.		
2.TIRE PR	ESSURE SENSOR ID REG	ISTRATION	
		tion. Refer to <u>WT-40, "Description"</u> .	
	e pressure warning lamp tur INSPECTION END	n OFF?	
		ressure monitoring system again. Refer to WT-42, "Work Procedure	

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# C1770, C1771, C1772, C1773 G SENSOR

#### < DTC/CIRCUIT DIAGNOSIS >

# C1770, C1771, C1772, C1773 G SENSOR

### **DTC** Description

INFOID:000000012797133

#### DTC DETECTION LOGIC

DTC No.	CONSULT screen item (Trouble diagnosis content)	DTC Detection Condition
C1770	G SENSOR FL (G sensor front left)	Malfunction in the G sensor data from front LH wheel sensor.
C1771	G SENSOR FR (G sensor front right)	Malfunction in the G sensor data from front RH wheel sensor.
C1772	G SENSOR RL (G sensor rear right)	Malfunction in the G sensor data from rear LH wheel sensor.
C1773	G SENSOR RR (G sensor rear left)	Malfunction in the G sensor data from rear RH wheel sensor.

#### NOTE:

The actual malfunction part may differ from the malfunction part which DTC shows if ID registration is not performed after performing tire rotation or tire/road wheel replacement.

#### POSSIBLE CAUSE

Wheel sensor

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM SELF DIAGNOSTIC RESULT

#### With CONSULT

Perform self-diagnosis in "AIR PRESSURE MONITOR".

<u>Is DTC "C1770", "C1771", "C1772", or "C1773" detected?</u>

YES >> Proceed to WT-58, "Diagnosis Procedure".

- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: INSPECTION END

#### **Diagnosis** Procedure

INFOID:000000012797134

# **1.**PERFORM BCM SELF-DIAGNOSIS

- 1. Replace wheel sensor. Refer to <u>BRC-191</u>, "FRONT WHEEL <u>SENSOR</u> : <u>Removal and Installation</u>" (front wheel sensor), <u>BRC-192</u>, "<u>REAR WHEEL SENSOR</u> : <u>Removal and Installation</u>" (rear wheel sensor).
- 2. Perform self-diagnosis for "BCM".

Is DTC "C1770", "C1771", "C1772", or "C1773" detected?

- YES >> Replace the BCM. Refer to <u>BCS-99, "Removal and Installation"</u>.
- NO >> INSPECTION END

#### < DTC/CIRCUIT DIAGNOSIS >

# U1000 CAN COMM CIRCUIT

### **DTC** Description

INFOID:000000012797135

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CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit communicates data but selectively reads required data only.

#### DTC DETECTION LOGIC

DTC No.	CONSULT screen item (Trouble diagnosis content)	DTC Detection Condition	
U1000	CAN COMM CIRCUIT (CAN communication circuit)	BCM is not communicating CAN communication signal for 2 seconds or more.	W
POSSIBLE CA CAN commur Malfunction o	nication malfunction		
	MATION PROCEDURE		
_	DTC CONFIRMATION		
2. Stop the ve	everal minutes at a speed of shicle.		
<u>s DTC "U1000'</u>	If-diagnosis for "AIR PRESS <u>" detected?</u> oceed to WT-59, "Diagnosis I		
NO-1 >> To		before repair: Refer to GI-45, "Intermittent Incident".	
Diagnosis P	rocedure	INFOID:000000012797137	
1.PERFORM	SELF-DIAGNOSTIC RESUL	т	
2. Check the	nition switch ON and hold it f "Self-Diagnostic Result" of "A	for 2 seconds or more. AIR PRESSURE MONITOR".	
	<u>' detected?</u> fer to <u>LAN-41, "Trouble Diag</u> SPECTION END	nosis Flow Chart".	

#### < DTC/CIRCUIT DIAGNOSIS >

# U1010 CONTROL UNIT (CAN)

# DTC Description

INFOID:000000012797138

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit communicates data but selectively reads required data only.

#### DTC DETECTION LOGIC

DTC	CONSULT screen item (Trouble diagnosis content)	DIC Detection Condition	
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	Detecting error during the initial diagnosis of CAN controller of BCM.	

### POSSIBLE CAUSE

Malfunction of BCM

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM DTC CONFIRMATION

#### With CONSULT

- T. Drive for several minutes at a speed of 40 km/h (25 MPH) or more.
- 2. Stop the vehicle.
- 3. Perform self-diagnosis for "AIR PRESSURE MONITOR".

#### Is DTC "U1010" detected?

- YES >> Proceed to WT-60, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: INSPECTION END

#### **Diagnosis Procedure**

INFOID:000000012797140

# 1.CHECK BCM

Check BCM harness connector for disconnection or deformation.

Is the inspection result normal?

- YES >> Replace BCM. Refer to <u>BCS-99</u>, "Removal and Installation".
- NO >> Repair or replace error-detected parts.

LOW TIRE PRESSURE WARNING LAMP	
LOW TIRE PRESSURE WARNING LAMP	0
Component Function Check	A
1. CHECK THE ILLUMINATION OF THE LOW TIRE PRESSURE WARNING LAMP	В
Check that the low tire pressure warning lamp is turned OFF after illuminating for approximately 1 second, when the ignition switch is turned ON.	
<u>Is the inspection result normal?</u> YES >> INSPECTION END NO >> Perform trouble diagnosis. Refer to <u>WT-61, "Diagnosis Procedure"</u> .	С
Diagnosis Procedure	D
1. POWER SUPPLY AND GROUND CIRCUIT	WΤ
Check power supply and ground circuit. Refer to <u>BCS-92, "Diagnosis Procedure"</u> . Is the inspection result normal?	
YES >> GO TO 2. NO >> Repair or replace damaged parts.	F
2. PERFORM SELF-DIAGNOSIS	0
With CONSULT     Perform self-diagnosis for "AIR PRESSURE MONITOR".	G
Is any DTC detected? YES >> Check the DTC. Refer to <u>WT-22, "DTC Index"</u> .	Н
NO $\rightarrow$ SO TO 3. <b>3.</b> CHECK LOW TIRE PRESSURE WARNING LAMP SIGNAL	I
<ul> <li>With CONSULT</li> <li>1. Turn the ignition switch ON.</li> </ul>	
CAUTION: Never start the engine.	J
<ol> <li>Perform "DATA MONITOR" in "AIR PRESSURE MONITOR".</li> <li>Select "WARNING LAMP" in "DATA MONITOR", and check that the low tire pressure warning lamp is turned OFF after illuminating for approximately 1 second, when the ignition switch is turned ON.</li> <li>Is the inspection result normal?</li> </ol>	K
YES >> Check the combination meter. Refer to <u>MWI-120, "COMBINATION METER : Diagnosis Proce-</u> dure".	L
NO >> Replace the BCM. Refer to <u>BCS-99, "Removal and Installation"</u> .	
	Μ
	Ν
	IN
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# < SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS TPMS

# Symptom Table

INFOID:000000012797143

# LOW TIRE PRESSURE WARNING LAMP SYMPTOM CHART

Diagnosis items	Symptom (Ignition switch ON)	Low tire pressure warning lamp	Cause	Action
	The low tire pres- sure warning lamp illuminates for 1 second, then turns OFF.	ON 1 sec > stays OFF SEIA0592E	Wake-up operation for all tire pressure sensors at wheels is completed.	No system malfunctions
	The low tire pres- sure warning lamp repeats blinking ON for 2 seconds and OFF for 0.2 seconds. 1 minute later, low tire pressure warn- ing lamp turns ON.	ON 2 sec > OFF 0.2 sec Maintains ON 1 minute later JSEIA0805GB	Wake-up operation for all tire pressure sensors at wheels is not complet- ed.	Perform the wake-up oper- ation for all tire pressure sensors at wheels. Refer to WT-39, "Description".
Low tire pres- sure warning	The low tire pres- sure warning lamp blinks once. 1 minute later, low tire pressure warn- ing lamp turns ON.	Blinks 1 time ON 0.3 sec > OFF 1.0 sec Waintains ON 1 minute later JSEIA08006GB	The front left tire pres- sure sensor is not acti- vated.	Perform the wake-up oper- ation for the tire pressure sensor at front left wheel. Refer to <u>WT-39, "Descrip-</u> tion".
lamp	The low tire pres- sure warning lamp repeats blinking twice. 1 minute later, low tire pressure warn- ing lamp turns ON.	Blinks 2 times ON 0.3 sec > OFF 0.3 sec Unit of the sec Unit o	The front right tire pres- sure sensor is not acti- vated.	Perform the wake-up oper- ation for the tire pressure sensor at front right wheel. Refer to <u>WT-39, "Descrip- tion"</u> .
	The low tire pres- sure warning lamp repeats blinking for 3 times. 1 minute later, low tire pressure warn- ing lamp turns ON.	Blinks 3 times ON 0.3 sec > OFF 0.3 sec Construction Maintains ON 1minute later JSEIA0808GB	The rear right tire pres- sure sensor is not acti- vated.	Perform the wake-up oper- ation for the tire pressure sensor at rear right wheel. Refer to <u>WT-39, "Descrip-</u> tion".
	The low tire pres- sure warning lamp repeats blinking for 4 times. 1 minute later, low tire pressure warn- ing lamp turns ON.	Blinks 4 times ON 0.3 sec > OFF 0.3 sec Maintains ON 1 minute later JSEIA0809GB	The rear left tire pres- sure sensor is not acti- vated.	Perform the wake-up oper- ation for the tire pressure sensor at rear left wheel. Refer to <u>WT-39, "Descrip-</u> tion".



#### < SYMPTOM DIAGNOSIS >

Diagnosis items	Symptom (Ignition switch ON)	Low tire pressure warning lamp	Cause	Action
	The low tire pres- sure warning lamp turns ON and stays illuminated.	Comes ON and stays ON SEIA0598E	Low tire pressure	Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-82. "Tire Air Pressure".
			The combination meter fuse is open or removed (or pulled out).	Check and install the com- bination meter fuse. If nec- essary, replace the fuse.
Low tire pres- sure warning lamp	The low tire pres- sure warning lamp		The BCM harness con- nector is removed.	Check the connection con- ditions of the BCM harness connector, and repair if necessary.
repeats blinking at 0.5-second inter- vals for 1 minute, and then stays illu- minated.	Blinks 1 min ON 0.5 sec > OFF 0.5 sec and stays ON SEIA078BE	Tire Pressure Monitor- ing System (TPMS) mal- function.	<ul> <li>Perform CONSULT self- diagnosis. Refer to <u>WT-</u><u>18, "CONSULT Function</u> (<u>TIRE PRESSURE</u><u>MONITORING SYS-</u><u>TEM)"</u>.</li> <li>If necessary, perform tire pressure sensor ID reg- istration. Refer to <u>WT-40,</u> <u>"Description"</u>.</li> </ul>	
			The tire pressure sensor activation tool does not activate.	Replace the battery in the tire pressure sensor activa- tion tool.
Hazard warn-	The hazard warn- ing lamp does not blink twice when the tire pressure		The ignition switch is OFF when the tire pres- sure sensor wake-up operation is performed.	Turn the ignition switch ON when performing the tire pressure sensor wake-up operation.
ing lamp	sensor is activat- ed. Or the buzzer does not sound.	_	The tire pressure sensor activation tool is not used in the correct posi- tion.	Operate the tire pressure sensor activation tool in the correct position when per- forming the wake-up oper- ation.
			The tire pressure sensor is already waked up.	No procedure.

#### NOTE:

If tire pressure sensor wake-up operation is not completed for two or more tire pressure sensors, the applicable low tire pressure warning lamp blinking patterns are displayed continuously.

(Example: Blinks once/OFF/blinks 3 times = Wake-up operation is not completed at the front left wheel and rear right wheel tire pressure sensors.)

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# LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON

#### < SYMPTOM DIAGNOSIS >

# LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON

### Description

INFOID:000000012797144

The low tire pressure warning lamp does not illuminate when the ignition switch is turned ON. **NOTE:** 

The low tire pressure warning lamp illuminates for approximately 1 second and then turns OFF when the ignition switch is turned ON. This is to check that no abnormal condition is present in the tire pressure monitoring system.

The lamp bulb may be burnt out or the tire pressure monitoring system may be malfunctioning if the low tire pressure warning lamp does not illuminate when the ignition switch is turned ON.

#### **Diagnosis Procedure**

INFOID:000000012797145

**1.**CHECK LOW TIRE PRESSURE WARNING LAMP SIGNAL

#### () With CONSULT

1. Turn the ignition switch ON.

#### CAUTION:

#### Never start the engine.

2. Select "ACTIVE TEST" in "AIR PRESSURE MONITOR" of "BCM".

3. Touch "WARNING LAMP" to turn ON the low tire pressure warning lamp.

When "ACTIVE TEST" is performed, does the low tire pressure warning lamp in the combination meter turn ON?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK LOW TIRE PRESSURE WARNING LAMP OPERATION

Check that the low tire pressure warning lamp is turned OFF after turns ON for approximately 1 second, when the ignition switch is turned ON.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-45, "Intermittent Incident"</u>.

NO >> Replace the BCM. Refer to <u>BCS-99</u>, "Removal and Installation".

3.CHECK COMBINATION METER POWER SUPPLY CIRCUIT

Perform the trouble diagnosis for combination meter power supply circuit. Refer to <u>MWI-120, "COMBINATION</u> <u>METER : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES-1 >> INSPECTION END

NO >> Repair or replace error-detected parts.

# LOW TIRE PRESSURE WARNING LAMP STAYS ON

LOW TIRE PRESSURE WARNING LAMP STAYS ON
< SYMPTOM DIAGNOSIS >
LOW TIRE PRESSURE WARNING LAMP STAYS ON
Description INFOID:000000012797146
The low tire pressure warning lamp does not turn OFF after several seconds is passed after engine starts.
Diagnosis Procedure
1.check tire pressure
<ol> <li>Turn the ignition switch ON. CAUTION: Never start the engine.</li> <li>Check the tire pressure for all wheels and adjust to the specified value. Refer to <u>WT-82, "Tire Air Pressure</u>".</li> </ol>
Is the inspection result normal?
YES >> GO TO 2. NO >> Inspect or repair the tires or wheels. 2.CHECK LOW TIRE PRESSURE WARNING LAMP
Check low tire pressure warning lamp display. <u>Does not low tire pressure warning lamp turn OFF?</u> YES >> INSPECTION END NO >> GO TO 3.
3.снеск всм
With CONSULT Perform "SELF-DIAG RESULTS" in "AIR PRESSURE MONITOR". Is any DTC detected? YES >> Check the DTC. Refer to WT-22, "DTC Index".
NO >> GO TO 4. 4.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT
Perform the trouble diagnosis for power supply and ground circuit. Refer to <u>BCS-92, "Diagnosis Procedure"</u> . <u>Is the inspection result normal?</u> YES >> Replace the BCM. Refer to <u>BCS-99, "Removal and Installation"</u> . NO >> Repair or replace error-detected parts.

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# LOW TIRE PRESSURE WARNING LAMP BLINKS

#### < SYMPTOM DIAGNOSIS >

# LOW TIRE PRESSURE WARNING LAMP BLINKS

### Description

INFOID:000000012797148

When the ignition switch is turned ON, the low tire pressure warning lamp blinks. And then 1 minute later, low tire pressure warning lamp turns ON.

#### NOTE:

The position of an inactive tire pressure sensor can be identified by checking the blinking timing of the low tire pressure warning lamp.

Low tire pressure warning lamp blink	ing timing	Activation tire position
OFF b	a : 0.3 sec. b : 1.0 sec.	Front LH
ON a a b	a : 0.3 sec. b : 1.0 sec.	Front RH
ON a a a b	a : 0.3 sec. b : 1.0 sec.	Rear RH
ON a a a a a b	a : 0.3 sec. b : 1.0 sec.	Rear LH
ON a b	a : 2 sec. b : 0.2 sec.	All tires

JPEIC0089GB

### **Diagnosis Procedure**

INFOID:000000012797149

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

Perform tire pressure sensor ID registration. Refer to <u>WT-40, "Description"</u>.

Is tire pressure sensor ID registration completed?

YES >> INSPECTION END

NO >> Perform the self-diagnosis for "AIR PRESSURE MONITOR". Refer to <u>WT-22, "DTC Index"</u>.

# TIRE INFLATION INDICATOR DOES NOT ACTIVATE

#### < SYMPTOM DIAGNOSIS >

# TIRE INFLATION INDICATOR DOES NOT ACTIVATE

# Description

The tire inflation indicator does not function while inflating a tire when the A/T shift selector position is in P-В range with the ignition switch ON or with the engine started. NOTE:

• After starting to inflate the tire, it takes a few seconds for the tire inflation indicator to function.

•	If there is no response for approximately 15 seconds or more after inflating the tires, cancel the use of the	С
	tire inflation indicator 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.	
•	For tire inflation indicator, Refer to WT-12, "Tire Inflation Indicator Function".	D

# **Diagnosis** Procedure

Diagnosis Procedure	NFOID:000000012797151
1. LOCATION CHANGE	WT
Move the vehicle to other area and repeat the procedure of the tire inflation indicator function. Re "Tire Inflation Indicator Function".	
Is the function normal?	F
YES >> Normal (the tire inflation indicator may not operate, depending on reception condition NO >> GO TO 2.	,
2. PERFORM LOW TIRE PRESSURE MONITORING SYSTEM SELF-DIAGNOSIS	G
<ul> <li>With CONSULT</li> <li>Drive for 10 minutes at a speed of 40 km/h (25 MPH) or more.</li> <li>Stop the vehicle.</li> </ul>	Н
3. Perform self-diagnosis for "AIR PRESSURE MONITOR".	
Is any DTCs detected?	1
YES >> Check the DTC. Refer to <u>WT-22, "DTC Index"</u> . NO >> GO TO 3.	
<b>3.</b> CHECK HAZARD WARNING LAMP OPERATION	J
Check hazard warning lamp operation with hazard switch.	
Does the hazard warning lamp blink?	K
YES >> GO TO 4.	
NO >> Perform trouble diagnosis for the hazard warning lamp. Refer to <u>WT-62, "Symptom T</u>	<u>able"</u>
4.PERFORM TCM SELF-DIAGNOSIS	L
Perform self-diagnosis for "TRANSMISSION".	Μ
Is any DTCs detected?	IVI
YES >> Check the DTC. Refer to <u>TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index"</u> . NO >> GO TO 5.	
5. CHECK HORN OPERATION	Ν
Check horn operation. Refer to WT-61, "Component Function Check".	
Is the operation normal?	0
YES >> GO TO 6.	
NO >> Repair or replace error-detected parts.	
O.PERFORM BCM SELF-DIAGNOSIS	Р
With CONSULT Perform self-diagnosis for "BCM".	

Is any DTCs detected?

YES

>> Check the DTC. Refer to <u>WT-22, "DTC Index"</u>.
>> Replace BCM. Refer to <u>BCS-99, "Removal and Installation"</u>. NO

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INFOID:000000012797150

# **ID REGISTRATION CANNOT BE COMPLETED**

#### < SYMPTOM DIAGNOSIS >

# ID REGISTRATION CANNOT BE COMPLETED

# Description

The ID of the tire pressure sensor installed in each wheel cannot be registered in the tire pressure monitoring system.

Inspect the tire pressure sensor or the tire pressure monitoring system circuit.

### Diagnosis Procedure

INFOID:000000012797153

INFOID:000000012797152

**1.**TIRE PRESSURE SENSOR WAKE-UP

Perform the tire pressure sensor wake-up. Refer to WT-39, "Description".

Is the tire pressure sensor wake-up completed?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK TIRE PRESSURE SENSOR ACTIVATION TOOL

Check tire pressure sensor activation tool.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the battery of tire pressure sensor activation tool or repair/replace the tire pressure sensor activation tool.

3. TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-40, "Description".

CAUTION:

To perform ID registration, observe the following points:

- Never register ID in a place where radio waves are interfered (e.g. radio tower).
- Never register ID in a place close to vehicles including TPMS.

Is tire pressure sensor ID registration completed?

YES >> INSPECTION END

NO >> GO TO 4.

**4.**CHECK TIRE PRESSURE SIGNAL

Change the work location and perform ID registration again.

NOTE:

Depending on the tire pressure sensor position\*, a blind spot exists, and the tire pressure receiver gets a poor reception. If an ID registration is performed under this condition, the registration may not be completed. In such case, follow the instructions below to improve the radio wave receiving environment.

• Rotate tire by 90°, 180°, or 270°. (This Step is to change tire pressure sensor position.)

• Open the door close to the tire of which ID registration is ongoing.

\*: Radio wave reception condition depends on vehicle architecture (e.g. body harness layout, tire wheel design) or environment.

When ID registration is performed, which wheels do not react?

All wheels react and ID registration is possible.>>INSPECTION END

Only certain wheel(s) do not react.>>Replace applicable tire pressure sensor. Refer to <u>WT-78. "Removal and</u> <u>Installation"</u>.

All wheels do not react.>>Check the tire pressure receiver (remote keyless entry receiver). Refer to <u>DLK-128. "Diagnosis Procedure"</u>.

# HAZARD WARNING LAMP REMAINS ON

< SYMPTOM DIAGNOSIS >					
HAZARD WARNING LAMP REMAINS ON	Λ				
Description INFOID:000000013499232	A				
The hazard warning lamp remains on.	В				
Diagnosis Procedure					
1. CHECK HAZARD WARNING LAMP OPERATION					
Check hazard warning lamp operation with hazard switch.					
Is the operation normal?	D				
YES >> Replace the BCM. Refer to <u>BCS-99, "Removal and Installation"</u> .					
NO >> Perform trouble diagnosis for the hazard warning lamp. Refer to EXL-196, "Diagnosis Procedure".					
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# NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING < SYMPTOM DIAGNOSIS >

# NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

# NVH Troubleshooting Chart

INFOID:000000012797156

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

Reference page		<u>WT-74</u>	<u>WT-74</u>	<u>WT-71</u>	<u>WT-82</u>	<u>WT-74</u>	I	I	<u>WT-82</u>	NVH in FAX and FSU sections.	NVH in RAX and RSU sections.	Refer to TIRES in this chart.	Refer to ROAD WHEEL in this chart.	NVH in FAX section.	NVH in FAX BR section.	NVH in ST section.	
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	FRONT AXLE AND FRONT SUSPENSION	REAR AXLE AND REAR SUSPENSION	TIRES	ROAD WHEELS	DRIVE SHAFT	BRAKE	STEERING
		Noise	×	×	×	×	×	×	×	—	×	×	—	×	×	×	×
		Shake	×	×	×	×	×	×	—	×	×	×	—	×	×	×	×
	TIRES	Vibration	—	—	—	×	_	_	_	×	×	×	_	—	×	—	×
		Shimmy	×	×	×	×	×	×	×	×	×	×	—	×	—	×	×
		Shudder	×	×	×	×	×	×	—	×	×	×	—	×	—	×	×
Symptom		Poor quality ride or handling	×	×	×	×	×	×		×	×		×	×			_
	ROAD WHEEL	Noise	×	×	×	—	—	×	—	—	×	×	×	—	×	×	×
		Shake	×	×	×	_	_	×	_	_	×	×	×	_	×	×	×
		Shimmy, Shud- der	×	×	×	_	_	×	_	_	×	×	×	_		×	×
		Poor quality ride or handling	×	×	×	_	_	×		_	×	×	×	_			

×: Applicable, —: Not applicable

# **ROAD WHEEL**

< PERIODIC MAINTENANCE >				
PERIODIC MAINTENANCE				
ROAD WHEEL				

Inspection						
APPEARANCE						
Road Wheel <ul> <li>Check road wheel for deformation, cracks, corrosion and other damage.</li> <li>Check wheel nuts for looseness by using torque wrench.</li> </ul>	С					
Wheel nut tightening torque : Refer to <u>WT-74, "Exploded View"</u> .	D					
<ul> <li>Tire</li> <li>Check entire circumference and both sides of each tire for deformation, cracks, scratch and other damage.</li> <li>Check tire tread for wear and foreign matter such as nails and small rock.</li> <li>Check that tire pressure is the specified value.</li> </ul>	WT					
Tire pressure : Refer to <u>WT-82, "Tire Air Pressure"</u> .	F					
Wheel Balance Adjustment (Aluminum Wheel)	G					
PREPARATION BEFORE ADJUSTMENT Using releasing agent, remove double-faced adhesive tape from the road wheel. CAUTION: • Be careful not to scratch the road wheel during removal.	Η					
<ul> <li>After removing double-faced adhesive tape, wipe clean traces of releasing agent from the road wheel.</li> </ul>						
<ul> <li>ADJUSTMENT</li> <li>The details of the adjustment procedure are different for each model of wheel balancer. Therefore, refer to each instruction manual.</li> <li>If a tire balance machine has adhesion balance weight mode settings and drive-in weight mode setting,</li> </ul>	J					
select and adjust a drive-in weight mode suitable for aluminum wheels.	1Z					
<ol> <li>Set road wheel on tire balance machine using the center hole as a guide. Start the tire balance machine.</li> <li>When inner and outer unbalance values are shown on the tire balance machine indicator, multiply outer unbalance value by 5/3 to determine balance weight that should be used. Select the outer balance weight</li> </ol>	K					
with a value closest to the calculated value above and install to the designated outer position of, or at the designated angle in relation to the road wheel.	L					
Never install the inner balance weight before installing the outer balance weight	M					
ance weight (closer to calculated balance weight value)	Ν					
NOTE: Note that balance weight value must be closer to the calculated balance weight value. Example:	0					
$37.4 \Rightarrow 35 \text{ g} (1.23 \text{ oz})$	Ρ					
SMA054D						

b. Installed balance weight in the position.

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# **ROAD WHEEL**

#### < PERIODIC MAINTENANCE >

• When installing balance weight 1 to road wheels, set it into the grooved area (A) on the inner wall of the road wheel as shown in the figure so that the balance weight center (B) is aligned with the tire balance machine indication position (angle) ©.

#### **CAUTION:**

C.

- Always use genuine NISSAN balance weights.
- Balance weights are non-reusable; always replace with new ones.
- Never install three or more sheets of balance weight.

- JPEIC0040ZZ If calculated balance weight value exceeds 50 g (1.76 oz), install Adhesion weight  $TT\lambda$ III
- two balance weight sheets in line with each other as shown in the figure. **CAUTION:** Never install one balance weight sheet on top of another.

- 3. Start the tire balance machine again.
- 4. Install drive-in balance weight on inner side of road wheel in the tire balance machine indication position (angle). **CAUTION:**

#### Never install three or more balance weight.

5. Start the tire balance machine. Check that the inner and outer residual unbalance value is within the allowable unbalance value. CAUTION:

If either residual unbalance value exceeds limit, repeat installation procedures.

Allowable unbalance value Dynamic (At flange) : Refer to <u>WT-82, "Road Wheel"</u>. Static (At flange) : Refer to WT-82, "Road Wheel".

**Tire Rotation** 

INFOID:000000012797159

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Wheel balancer indication position (angle)

EXCEPT FRONT AND REAR WHEEL SIZE DIFFERENT MODELS

# **ROAD WHEEL**

< PERIODIC MAINTENANCE >

- Follow the maintenance schedule for tire rotation service intervals. Refer to <u>MA-6</u>, "FOR NORTH AMERICA : Explanation of General <u>Maintenance</u>".
- When installing the wheel, tighten wheel nuts to the specified torque. Refer to <u>WT-74, "Exploded View"</u>.
   CAUTION:
  - 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 wheel nut at torque exceeding the criteria.
  - Use NISSAN genuine wheel nut.
- After tire rotation, perform ID registration. Refer to <u>WT-40, "Description"</u>.

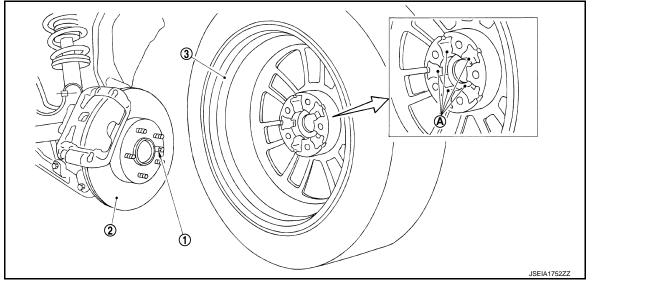
# FRONT AND REAR WHEEL SIZE DIFFERENT MODELS

- Tire cannot be rotated in vehicle, as front tire are different size from rear tire and the direction of wheel rotation is fixed in each tire.
- 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 wheel nut at torque exceeding the criteria.
- Use NISSAN genuine wheel nut.

Safety Device Preventing from Being Incorrectly installed

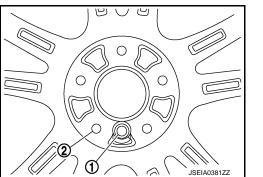
#### FRONT BRAKE DISC ROTOR AND FRONT WHEEL

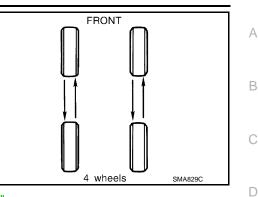
Front and rear wheel size for this model differs, therefore special pin ① is adopted to the front brake disc rotor ②. And a hole A that matches to this pin is adopted to the front wheel ③ (the rear wheel does not have this wheel). This structure prevents the rear wheel from being mistakenly installed on the front.



T-TYPE SPARE TIRE WHEEL

• Regarding spare tire (for emergency) wheel, wrong assembly protection pin through hole ① has been set in addition to regular bolt holes ② in order to enable installation to front wheel.





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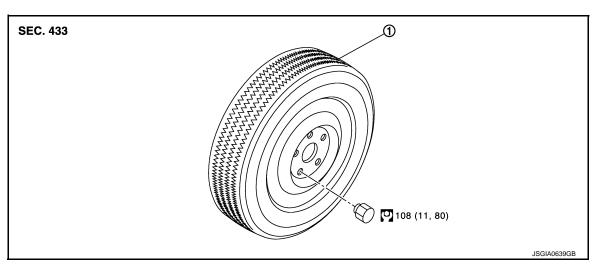
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#### < REMOVAL AND INSTALLATION >

# REMOVAL AND INSTALLATION ROAD WHEEL TIRE ASSEMBLY

INFOID:000000012797160



(1) Tire assembly

🖸 : N·m (kg-m, ft-lb)

# Removal and Installation

INFOID:000000012797161

#### CAUTION:

- For the removal and installation of tires equipped with noise absorbing sponge, refer to <u>WT-6, "Ser-vice Notice and Precautions for Tires Equipped with Noise Absorbing Sponge"</u>.
- For the identification of tires equipped with noise absorbing sponge, refer to <u>WT-82, "Tire Air Pressure"</u>.

#### REMOVAL

- 1. Remove wheel nuts.
- 2. Remove tire assembly.

#### INSTALLATION

Note the following, install in the reverse order of removal.

- When replacing or rotating wheels, perform the ID registration. Refer to WT-40, "Description".
- When replacing wheels, install tire pressure sensor. Refer to <u>WT-78, "Removal and Installation"</u>.
   CAUTION:

# Never reuse grommet seal.

#### Inspection

INFOID:000000012797162

#### ALUMINUM WHEEL

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

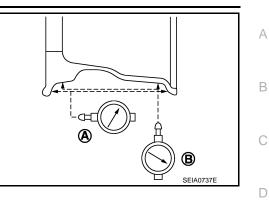
# ROAD WHEEL TIRE ASSEMBLY

#### < REMOVAL AND INSTALLATION >

- b. Set dial indicator as shown in the figure.
- c. Check runout, if the axial runout (A) or radial runout (B) exceeds the limit, replace aluminum wheel.

### Limit

Axial runout (A) Radial runout (B) : Refer to <u>WT-82, "Road Wheel"</u>. : Refer to <u>WT-82, "Road Wheel"</u>.



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# REMOTE KEYLESS ENTRY RECEIVER (TIRE PRESSURE RECEIVER)

#### < REMOVAL AND INSTALLATION >

# REMOTE KEYLESS ENTRY RECEIVER (TIRE PRESSURE RECEIVER)

### Removal and Installation

INFOID:000000012797163

The tire pressure receiver is an integral part of the remote keyless entry receiver. Refer to <u>DLK-265, "Removal</u> <u>and Installation"</u>.

# TIRE PRESSURE SENSOR

### < REMOVAL AND INSTALLATION >

# TIRE PRESSURE SENSOR

# **Exploded View**

TYPE 1

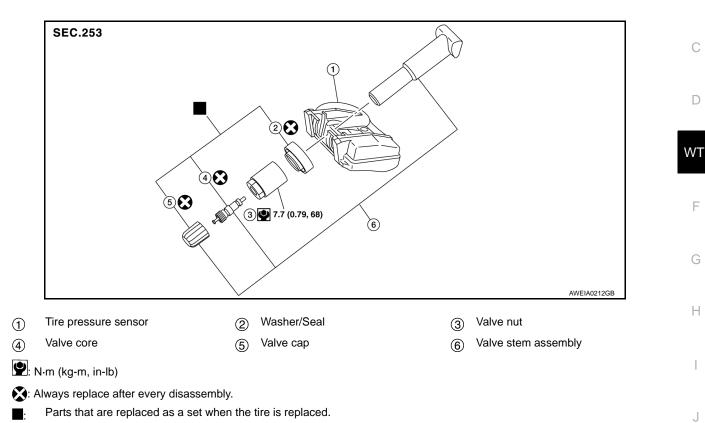
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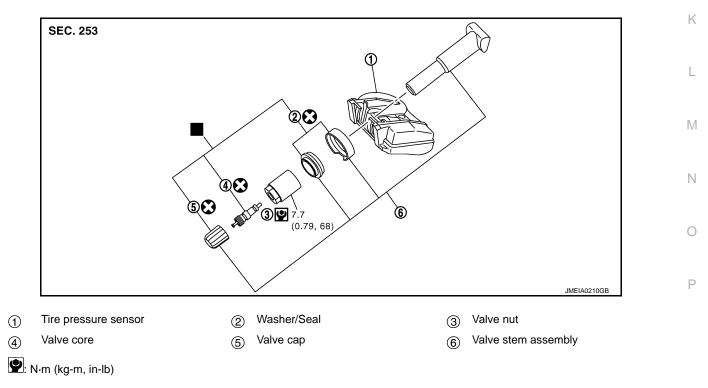
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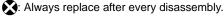
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#### < REMOVAL AND INSTALLATION >



Parts that are replaced as a set when the tire is replaced.

# Removal and Installation

INFOID:000000012797165

#### **CAUTION:**

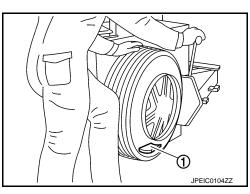
- For the removal and installation of tires equipped with noise absorbing sponge, refer to <u>WT-6, "Ser-vice Notice and Precautions for Tires Equipped with Noise Absorbing Sponge"</u>.
- For the identification of tires equipped with noise absorbing sponge, refer to <u>WT-82, "Tire Air Pressure"</u>.

#### REMOVAL

- 1. Remove tire assembly. Refer to WT-74, "Removal and Installation".
- Remove valve cap, valve core and then deflate tire.
   NOTE: If the tire is reused, apply a matching mark to the position

If the tire is reused, apply a matching mark to the position of the tire road wheel valve hole for the purpose of wheel balance adjustment after installation.

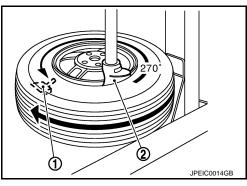
- 3. Remove valve nut retaining tire pressure sensor and allow tire pressure sensor to fall into tire.
- 4. Use the tire changer and disengage the tire beads. CAUTION:
  - Verify that the tire pressure sensor ① is at the bottom of the tire while performing the above.
  - Be sure not to damage the road wheel or tire pressure sensor.
- 5. Apply bead cream or an equivalent to the tire beads.
- 6. Set tire onto the tire changer turntable so that the tire pressure sensor inside the tire is located close to the road wheel valve hole.

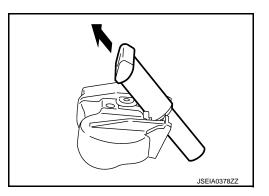


 Turn tire so that valve hole is at bottom and bounce so that tire pressure sensor ① is near valve hole. Carefully lift tire onto turntable and position valve hole (and tire pressure sensor) 270 degree from mounting/dismounting head ②.
 CAUTION:

Be sure not to damage the road wheel and tire pressure sensor.

- 8. Remove tire pressure sensor from tire.
- 9. Remove the grommet seal.
- 10. Remove valve stem in the direction  $(\Leftarrow)$ .





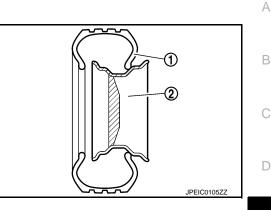
# INSTALLATION CAUTION:

# TIRE PRESSURE SENSOR

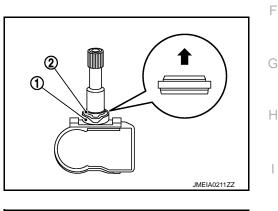
# < REMOVAL AND INSTALLATION >

#### Replace valve stem assembly if the valve stem has deformations, cracks, damage or corrosion.

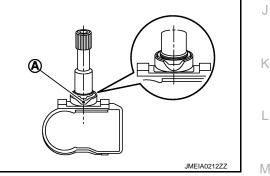
- 1. Apply bead cream or an equivalent to the tire beads.
- 2. Install the tire inside beads 1 onto the road wheel 2 in the position shown in the figure.
- 3. Install valve stem to tire pressure sensor.
- 4. Install grommet seal to the tire pressure sensor assembly. CAUTION:
  - Never reuse grommet seal.
  - Insert grommet seal all the way to the base.



- 5. Follow the procedure below and install the tire pressure sensor to the road wheel.
- a. When valve stem assembly is replaced.
- i. Set valve stem in the tire pressure sensor.
- ii. Install the washer ① in the valve stem, and then install seal ② in the valve stem.(TYPE 2 only)
   CAUTION:
  - Direction of the seal is checked.
    - <□ : Upper side



- The cut part A of washer becomes in the center of valve stem.



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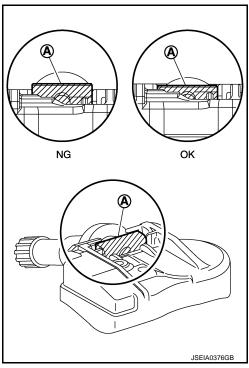
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# TIRE PRESSURE SENSOR

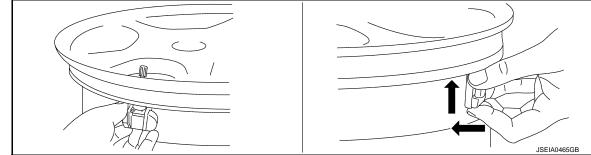
#### < REMOVAL AND INSTALLATION >

 b. Check the condition of valve stem before installing tire pressure sensor to road wheel.
 CAUTION:

The base of valve stem (A) must be positioned in the groove of the metal plate as shown in the figure.



c. Hold tire pressure sensor as shown in the figure, and press the sensor in the direction shown by arrow
 ((+) to bring it into absolute contact with road wheel. After this, tighten valve nut to the specified torque.



#### **CAUTION:**

- Never reuse valve core and valve cap.
- Check that grommet seal is free of foreign matter.
- Check that grommet seal contacts horizontally with road wheel.
- Check again that the base of valve stem is positioned in the groove of the metal plate.
- Manually tighten valve nut all the way to the wheel. (Never use a power tool to avoid impact.)
- 6. Set the tire onto the turntable so that the tire changer arm (2) is at a position approximately  $270^{\circ}$  from the tire pressure sensor (1).

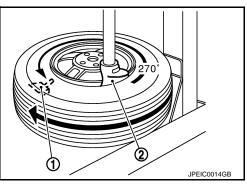
#### **CAUTION:**

Be sure that the arm does not contact the tire pressure sensor.

- Install the tire outer side beads onto the road wheel.
   CAUTION:
   When installing, check that the tire does not turn together with the road wheel.
- Check the tire pressure for all wheels and adjust to the specified value. Refer to <u>WT-82, "Tire Air Pressure"</u>. NOTE:

Before adding air, align the tire with the position of the matching mark applied at the time of removal.

- Install tire to the vehicle. Refer to <u>WT-74, "Removal and Installation"</u>.
- 10. Perform tire pressure sensor ID registration. Refer to <u>WT-40, "Description"</u>.



#### WT-80

# **OUTSIDE KEY ANTENNA**

< REMOVAL AND INSTALLATION >

# OUTSIDE KEY ANTENNA Removal and Installation INFOLD-00000012797166 Remove the outside key antenna. Refer to <u>DLK-262, "OUTSIDE HANDLE : Removal and Installation"</u> (outside handle) or <u>DLK-262, "REAR BUMPER : Removal and Installation"</u> (rear bumper).

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# SERVICE DATA AND SPECIFICATIONS (SDS)

### < SERVICE DATA AND SPECIFICATIONS (SDS)

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

# Road Wheel

INFOID:000000012797167

#### CONVENTIONAL

Item		Limit			
Runout	Axial runout	Less than 0.3 mm (0.012 in)			
Kuhout	Radial runout				
Allowable unbalance	Dynamic (At flange)	Less than 5 g (0.17 oz) (one side)			
	Static (At flange)	Less than 10 g (0.35 oz)			

#### EMERGENCY

Item		Limit
Runout	Axial runout	Less than 1.5 mm (0.059 in)
Kullout	Radial runout	

### Tire Air Pressure

INFOID:000000012797168

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

Туре	Tire size		Air pressure
	P225/55RF17 95V	Front	240 (2.4. 25)
1	F225/55KF17 95V	Rear	240 (2.4, 35)
	P245/40RF19 94V* <sup>1</sup>	Front	240 (2.4, 35)
2	P245/40RF19 94V	Rear	240 (2.4, 33)
	③ 245/40RF19 94W <sup>*1</sup>	Front	240 (2.4, 35)
3		Rear	240 (2.4, 33)
	245/40R19 94Y	Front	240 (2.4, 35)
4	265/35R19 94W	Rear	240 (2.4, 33)
Ē	245/40RF19 94W* <sup>1</sup>	Front	240 (2.4, 35)
5	265/35RF19 94W* <sup>1</sup>	Rear	240 (2.4, 33)
		Front	420 (4.2, 60)
1145/70	T145/70R18 107M* <sup>2</sup>		420 (4.2, 00)

• \*1: To identify tires with noise absorbing sponge, check codes (A).

Туре	Code for tires with noise absorbing sponge									
2	P245/40RF19 94V	: DOT U28T47DR								
3	245/40RF19 94W	: DOT U28TA3BR								
	245/40RF19 94W	: DOT U28TAWBR								
(5)	265/35RF19 94W	: DOT U2N7ATBR								

#### **CAUTION:**

For the handling of tires equipped with noise absorbing sponge, refer to <u>WT-6</u>, <u>"Service Notice and Precautions for</u> <u>Tires Equipped with Noise Absorbing Sponge"</u>.

• \*2: If equipped models

