SECTION WT
ROAD WHEELS & TIRES

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000014417920

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, 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 the SR section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery or batteries, and wait at least three minutes before performing any service.**

Service Notice and Precautions for TPMS

INFOID:0000000014417921

WARNING:

Radio waves could adversely affect electric medical equipment. Those who use a pacemaker should contact the electrical medical equipment manufacturer for the possible influences before use.

- Low tire pressure warning lamp blinks for 1 minute, then turns ON when any malfunction occurs except low tire pressure. Erase the self-diagnosis memories for Tire Pressure Monitoring System (TPMS), or register the ID to turn low tire pressure warning lamp OFF. For ID registration, refer to WT-25, "Description".
- ID registration is required when replacing tire pressure sensor or low tire pressure warning control unit. Refer to WT-25, "Description".
- For easy fill tire alert function, refer to the following.
  - When inflating the tires, park the vehicle in the safe area and ensure the safety of the working area.
  - Read and understand the easy fill tire alert function prior to use. Refer to WT-11, "Easy Fill Tire Alert Function"
  - Inflate the tires one at a time.
  - If there is no response for approximately 15 seconds or more after inflating the tires, cancel the use of the easy fill tire alert function or move the vehicle approximately 1 m (3.2 ft) backward or forward to try again. The air filler pressure may be weak or out of service area.
  - Despite the high-precision TPMS pressure sensor, an indicated value may differ from that of the pressure gauge.
  - Air pressure is measured rather high due to the rise in tire air temperature after driving.
  - If TPMS is malfunctioning, the easy fill tire alert is unusable.
- Replace grommet seal, valve core and valve cap of tire pressure sensor in TPMS when replacing each tire by reaching the wear limit. Refer to WT-71, "Exploded View".
- Never install tire pressure sensor from other vehicles. Tire pressure monitoring system (TPMS) does not function if specified Genuine NISSAN tire pressure sensor is not installed.
- Because the tire pressure sensor conforms to North America radio law, the following items must be observed.
  - The sensor may be used only in North America.

- It may not be used in any method other than the specified method.
- It must not be disassembled or modified.

Service Notice and Precautions for Road Wheel

INFOID:0000000014417922

- Genuine NISSAN aluminum wheel is designed for each type of vehicle. Use it on the specified vehicle only.
- Use Genuine NISSAN parts for the road wheels, valve caps and wheel nuts.
- Always use them after adjusting the wheel balance. For the balance weights, use Genuine NISSAN aluminum wheel weights.
- Use caution when handling the aluminum wheels, because they can be easily scratched. When removing dirt, do not use any abrasives, a wire brush, or other items that may scratch the coating. Use a neutral detergent if a detergent is needed.
- After driving on roads scattered with anti-icing salts, wash off the wheels completely.
- When installing road wheels onto the vehicle, always wipe off any dirt or foreign substances to prevent them from being trapped between the contact surfaces of wheel.
- Do not apply oil to nut and bolt threads.
- When tightening the valve cap there is a risk of damaging the valve cap if a tool is used. Tighten by hand.

PREPARATION

PREPARATION

Special Service Tool

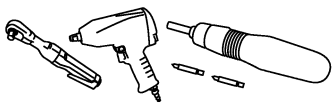
INFOID:0000000014417923

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (J-50190) Signal Tech II  ALEIA0131ZZ	• Activate and display TPMS transmitter IDs • Display tire pressure reported by the TPMS transmitter • Read TPMS DTCs • Register TPMS transmitter IDs • Test remote keyless entry keyfob relative signal strength • Check Intelligent Key relative signal strength • Confirm vehicle Intelligent Key antenna signal strength • Compatible with future sensors • Equipped with a display
KV48105501 (J-45295-A) Transmitter activation tool  ALEIA0183ZZ	• Activate TPMS transmitter IDs • Compatible with future sensors • Equipped with a display (KV48105501 only)

Commercial Service Tool

INFOID:0000000014417924

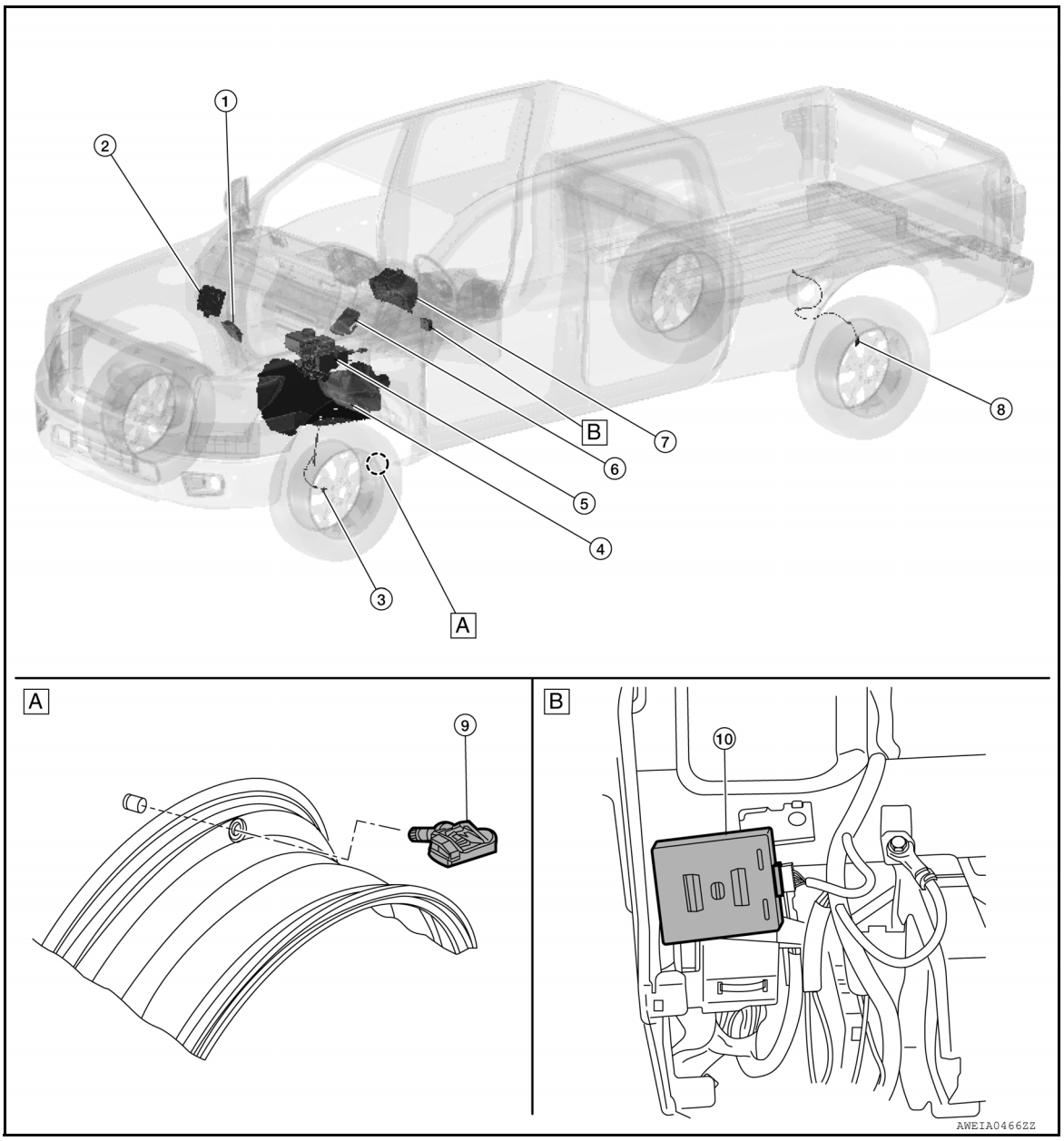
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000014417925



A. Wheel (LF shown, others similar) B. Behind LH side of instrument panel

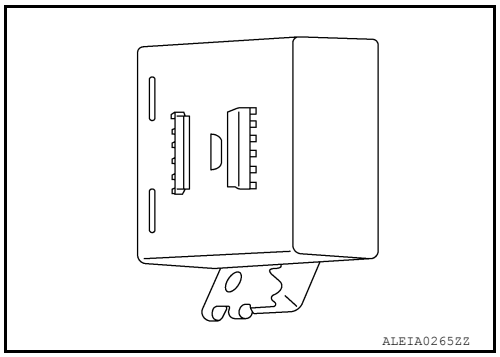
No.	Component parts	Function
1.	TCM (RE6R01A)	Mainly transmits the P position signal to low tire pressure warning control unit via CAN communication. Refer to TM-15, "A/T CONTROL SYSTEM : Component Parts Location" for detailed installation location.
2.	IPDM E/R	Mainly receives horn operation signal from low tire pressure warning control unit via CAN communication. Refer to PCS-5, "Component Parts Location" for detailed installation location.

No.	Component parts	Function
3.	Front wheel sensor LH (RH similar)	Refer to BRC-9, "Component Parts Location" for detailed installation location.
4.	TCM (RE7R01B)	Mainly transmits the P position signal to low tire pressure warning control unit via CAN communication. Refer to TM-266, "A/T CONTROL SYSTEM : Component Parts Location" for detailed installation location.
5.	ABS actuator and electric unit (control unit)	Mainly transmits the wheel speed signal to low tire pressure warning control unit via CAN communication. Refer to BRC-9, "Component Parts Location" for detailed installation location.
6.	BCM	Mainly receives the hazard lamp operation signal from low tire pressure warning control unit via CAN communication. Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
7.	Combination meter	The combination meter receives tire pressure status from the low tire pressure waning control unit via CAN communication. The combination meter will display the low tire pressure warning lamp when a low tire pressure or system malfunction is detected by the low tire pressure warning control unit. Refer to MWI-8, "METER SYSTEM : Component Parts Location" (type A) or MWI-116, "METER SYSTEM : Component Parts Location" (type B) for detailed installation location.
8.	Rear wheel sensor LH (RH similar)	Refer to BRC-9, "Component Parts Location" for detailed installation location.
9.	Tire pressure sensor	Refer to WT-8, "Tire Pressure Sensor".
10.	Low tire pressure warning control unit	Refer to WT-7, "Low Tire Pressure Warning Control Unit".

Low Tire Pressure Warning Control Unit

INFOID:0000000014417926

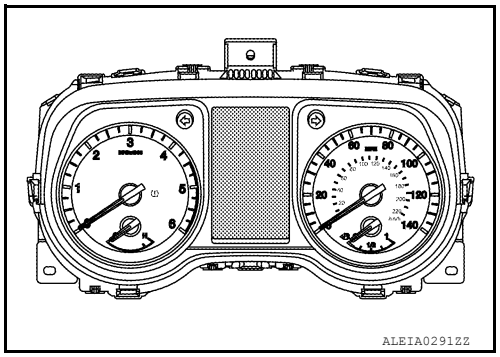
- Tire pressure receiver is integrated in low tire pressure warning control unit.
- The tire pressure receiver receives the tire pressure signal transmitted by the tire pressure sensor in each wheel.
- The low tire pressure warning control unit reads the tire pressure signal received by tire pressure receiver, and controls the low tire pressure warning lamp operations. It also has a judgment function to detect a system malfunction.



Information Display (If Equipped)

INFOID:0000000014417927

A low tire pressure warning or flat tire warning is shown on the vehicle information display when they are transmitted from the low tire pressure warning control unit to combination meter via CAN communication.



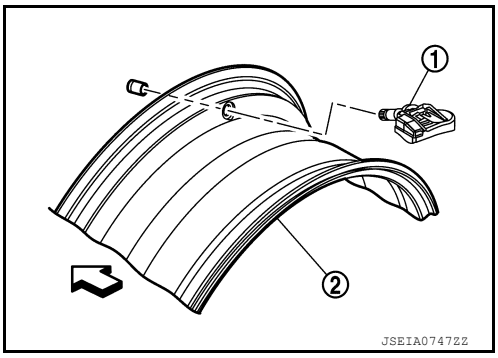
Condition		Vehicle information display
Ignition switch OFF		Not indicated
Ignition switch ON	Low tire pressure warning lamp remains ON after blinking for one minute. Tire Pressure Monitoring System (TPMS) malfunction.	Not indicated
Ignition switch ON	Low tire pressure warning lamp remains ON (low tire pressure).	Indicated
Ignition switch ON	Flat tire warning.	Indicated

Tire Pressure Sensor

INFOID:0000000014417928

The tire pressure sensor (1) integrated with the valve is installed in each wheel (2), and transmits the detected tire pressure and temperature signal in the form of the radio wave. The radio signal is received by the low tire pressure warning control unit (tire pressure receiver).

⇦ : Outside



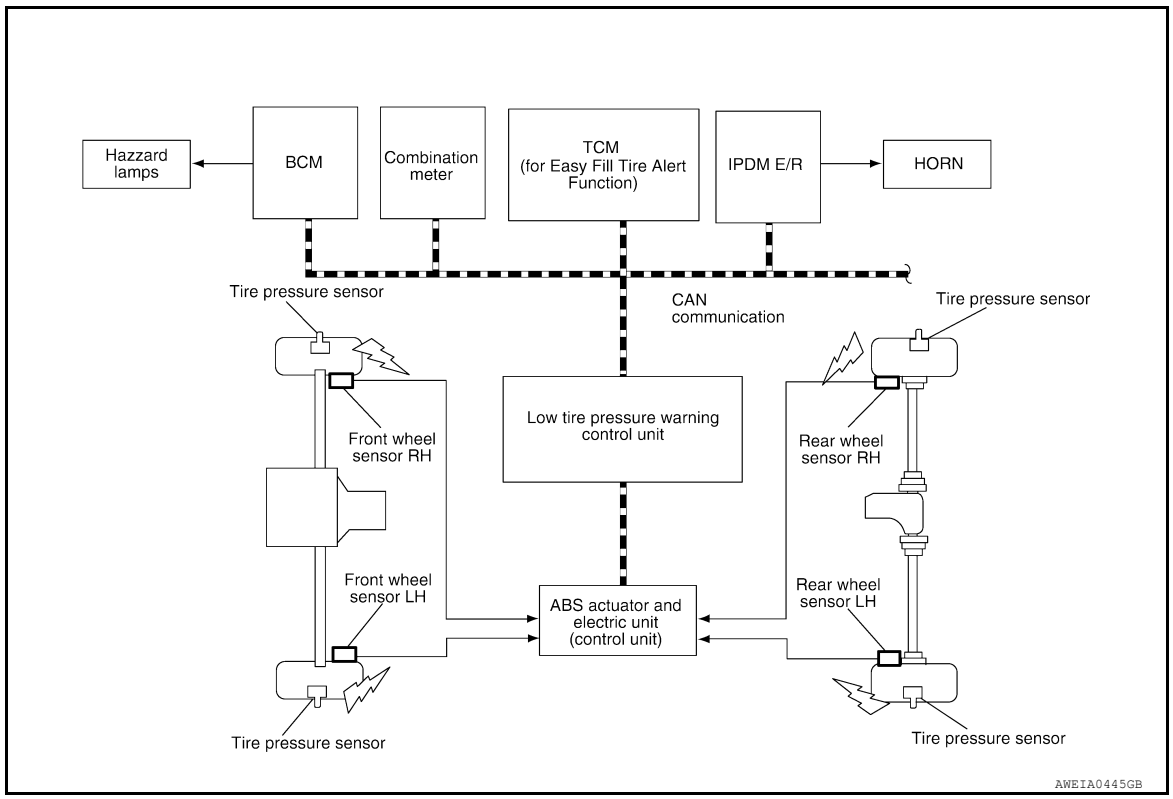
SYSTEM

System Description

INFOID:0000000014417929

- During driving, the TPMS (Tire Pressure Monitoring System) receives the signal transmitted from a tire pressure sensor installed in each wheel. The low tire pressure warning control unit of this system has pressure judgment and trouble diagnosis functions. When the TPMS (Tire Pressure Monitoring System) detects low inflation pressure or another unusual symptom, the low tire pressure warning lamp in the combination meter comes on.
- If the tire pressure is less than the warning tire pressure value, the low tire pressure warning lamp illuminates.
- Location of wheel is specified due to the synchronism of wheel sensor position and tire pressure sensor position.
- Activates the TPMS (Tire Pressure Monitoring System) when the vehicle speed is 40 km/h (25 MPH) or more.
- The tire pressure monitoring system (TPMS) has Easy Fill Tire alert function to aid in tire inflation. Refer to WT-11, "Easy Fill Tire Alert Function".

SYSTEM DIAGRAM



INPUT/OUTPUT SIGNAL

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

Component parts	Signal item
Low tire pressure warning control unit	Mainly transmits the following signals to combination meter via CAN communication: • Low tire pressure warning lamp signal • Low tire pressure wheel location signal • TPMS malfunction warning lamp signal Mainly receives the following signals via CAN communication. • Vehicle speed signal (ABS) from ABS actuator and electric unit • Shift position signal (P range signal) from TCM
BCM	Mainly receives the hazard lamp signal from low tire pressure warning control unit via CAN communication.

Component parts	Signal item
Combination meter	Mainly receives the following signals from low tire pressure warning control unit via CAN communication: • Low tire pressure warning lamp signal • Low tire pressure wheel location signal • TPMS malfunction warning lamp signal
ABS actuator and electric unit (control unit)	Mainly transmits the vehicle speed signal (ABS) to low tire pressure warning control unit via CAN communication.
TCM	Mainly transmits the shift position signal (P range signal) to low tire pressure warning control unit via CAN communication.
IPDM E/R	Mainly receives the horn reminder signal from low tire pressure warning control unit via CAN communication.

LOW TIRE PRESSURE WARNING LAMP INDICATION CONDITION

Uses CAN communication from the low tire pressure warning control unit to illuminate the low tire pressure warning lamp on the combination meter.

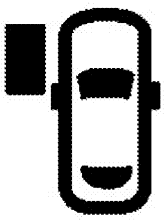
Name	Design	Layout
Low tire pressure warning lamp		Refer to MWI-11, "METER SYSTEM : Design" (type A meter) or MWI-117, "METER SYSTEM : Design" (type B meter).

Condition	Low tire pressure warning lamp
Ignition switch OFF	OFF
Ignition switch ON (System normal)	Warning lamp turns on for 1 second, then turns off.
Low tire pressure	ON
Configuration not performed in tire pressure monitoring system	Warning lamp blinks 1 min., then turns on.
Tire pressure sensor ID not registered in low tire pressure warning control unit	
Tire pressure monitoring system malfunction (Other diagnostic item)	

LOW TIRE PRESSURE LOCATION INDICATOR

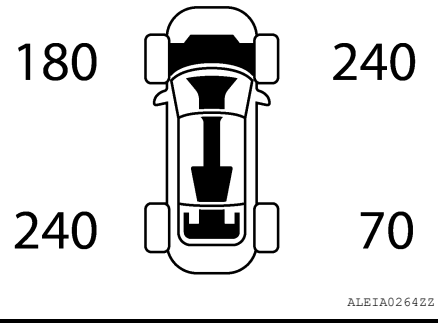
The low tire pressure location indicator is displayed in the information display of combination meter with the low tire pressure warning lamp and warning message under the following conditions:

- Tire pressure is low.
- Tire goes flat.

Design	Message
 JMEIA0247ZZ	Tire Pressure Low Add Air

TIRE PRESSURE DISPLAY

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

Design	Description
 ALEIA0264ZZ	Tire pressure of each tire is displayed at side of each tire.

HAZARD WARNING LAMP INDICATION CONDITION

The hazard warning lamp blinks under the following conditions:

- When ID registration is completed. Refer to WT-25, "Work Procedure".
- During the use of the Easy Fill Tire Alert function.

HORN CONTROL CONDITION

During the use of Easy Fill Tire Alert function.

Easy Fill Tire Alert Function

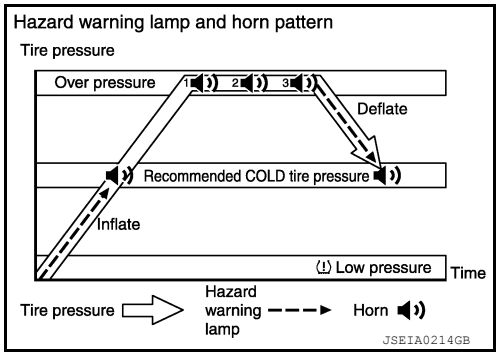
INFOID:0000000014417930

- This function operates only when the select lever position is in P-range with the ignition switch ON.

NOTE:
The Easy Fill tire alert function is recommended to use with the ignition switch ON.

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

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



DIAGNOSIS SYSTEM (TIRE PRESSURE MONITORING SYSTEM)

CONSULT Function

INFOID:0000000014417931

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with low tire pressure warning control unit.

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

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 following: WT-16, "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
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 FR	Air pressure front right
AIR PRESS RR	Air pressure rear right
AIR PRESS RL	Air pressure rear left

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 from the ABS actuator and electric unit (control unit) is displayed.
AIR PRESS FL (kPa, kgf/cm^2 or Psi)	Indicates air pressure of front left tire.
AIR PRESS FR (kPa, kgf/cm^2 or Psi)	Indicates air pressure of front right tire.
AIR PRESS RR (kPa, kgf/cm^2 or Psi)	Indicates air pressure of rear right tire.
AIR PRESS RL (kPa, kgf/cm^2 or Psi)	Indicates air pressure of rear left 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.

Monitor Item (Unit)	Description
WARNING AIR PRESSURE FL (kPa, kgf/cm^2 or Psi)	Indicates warning air pressure front left tire.
WARNING AIR PRESSURE FR (kPa, kgf/cm^2 or Psi)	Indicates warning air pressure front right tire.
WARNING AIR PRESSURE RR (kPa, kgf/cm^2 or Psi)	Indicates warning air pressure rear right tire.
WARNING AIR PRESSURE RL (kPa, kgf/cm^2 or Psi)	Indicates warning air pressure rear left tire.

WORK SUPPORT

Support Item	Description
ID REGIST	Refer to WT-25, "Description".

ACTIVE TEST

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

ECU IDENTIFICATION

Low tire pressure warning control unit part number can be read.

ECU DIAGNOSIS INFORMATION

TIRE PRESSURE MONITORING SYSTEM

Reference Value

INFOID:0000000014417932

VALUES ON THE DIAGNOSIS TOOL

CAUTION:

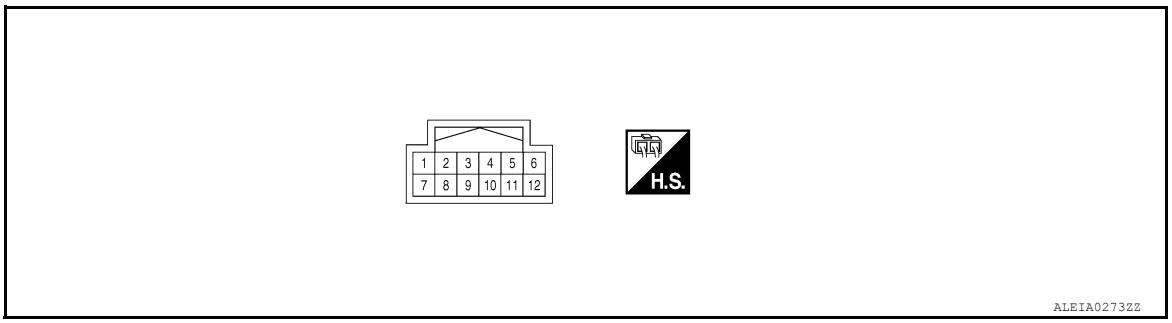
The reference values in the table below come from the control unit calculation data. The normal values may in some cases be displayed even though the power circuit (harness) is open or shorted.

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) or more then drive normally for 10 minutes. • Turn the ignition switch ON and use the activation tool to transmit the registration signal.	Tire pressure (kPa), (kgf/cm^2) or (Psi)
AIR PRESS FR		
AIR PRESS RR		
AIR PRESS RL		
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	Horn ON: On Horn OFF: Off
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^2) or (Psi)
WARNING AIR PRESSURE FR	Ignition switch ON	Indicates warning air pressure front right tire (kPa), (kgf/cm^2) or (Psi)
WARNING AIR PRESSURE RR	Ignition switch ON	Indicates warning air pressure rear right tire (kPa), (kgf/cm^2) or (Psi)
WARNING AIR PRESSURE RL	Ignition switch ON	Indicates warning air pressure rear left tire (kPa), (kgf/cm^2) or (Psi)

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
1 (P)	—	CAN-Low	Input/ Output	—	—
2 (L)	—	CAN-High	Input/ Output	—	—
7 (W)	Ground	IGN SW	Input	Ignition switch ON	Battery voltage
				Ignition switch OFF	0 V
10 (B)	Ground	Ground	—	Always	0 V
11 (Y)	Ground	Power supply	Input	Always	Battery voltage

DTC Inspection Priority Chart

INFOID:0000000014417933

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

Priority	Detected items (DTC)
1	C1769 CONFIG SETTING
2	C1734 CONTROL UNIT
3	• U1000 CAN COMM CIRCUIT • U1010 CONTROL UNIT (CAN)
4	C1729 VHCL SPEED SIG ERR
5	• C1765 WSSP DATA FAIL FL • C1766 WSSP DATA FAIL FR • C1767 WSSP DATA FAIL RL • C1768 WSSP DATA FAIL RR
6	• C1716 [PRESSDATA ERR] FL • C1717 [PRESSDATA ERR] FR • C1718 [PRESSDATA ERR] RR • C1719 [PRESSDATA ERR] RL
7	• C1761 TEMPERATURE DATA FAIL FL • C1762 TEMPERATURE DATA FAIL FR • C1763 TEMPERATURE DATA FAIL RR • C1764 TEMPERATURE DATA FAIL RL
8	• C1708 [NO DATA] FL • C1709 [NO DATA] FR • C1710 [NO DATA] RR • C1711 [NO DATA] RL
9	• C1704 LOW PRESSURE FL • C1705 LOW PRESSURE FR • C1706 LOW PRESSURE RR • C1707 LOW PRESSURE RL
10	• C1730 FLAT TIRE FL • C1731 FLAT TIRE FR • C1732 FLAT TIRE RR • C1733 FLAT TIRE RL
11	• C1770 G SENSOR FAIL FL • C1771 G SENSOR FAIL FR • C1772 G SENSOR FAIL RL • C1773 G SENSOR FAIL RR

DTC Index

INFOID:0000000014417934

DTC	Items (CONSULT screen terms)	Low tire pressure warning lamp	Reference
C1704	LOW PRESSURE FL	ON	WT-30, "DTC Description"
C1705	LOW PRESSURE FR		
C1706	LOW PRESSURE RR		
C1707	LOW PRESSURE RL		
C1708	[NO DATA] FL	The low tire pressure warning lamp repeats blinking at 0.5-second intervals for 1 minute, and then stays illuminated.	WT-32, "DTC Description"
C1709	[NO DATA] FR		
C1710	[NO DATA] RR		
C1711	[NO DATA] RL		
C1716	[PRESSDATA ERR] FL	The low tire pressure warning lamp repeats blinking at 0.5-second intervals for 1 minute, and then stays illuminated.	WT-35, "DTC Description"
C1717	[PRESSDATA ERR] FR		
C1718	[PRESSDATA ERR] RR		
C1719	[PRESSDATA ERR] RL		
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-37, "DTC Description"
C1730	FLAT TIRE FL	ON	WT-38, "DTC Description"
C1731	FLAT TIRE FR		
C1732	FLAT TIRE RR		
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-40, "DTC Description"
C1761	TEMPERATURE DATA FAIL FL	The low tire pressure warning lamp repeats blinking at 0.5-second intervals for 1 minute, and then stays illuminated.	WT-42, "DTC Description"
C1762	TEMPERATURE DATA FAIL FR		
C1763	TEMPERATURE DATA FAIL RL		
C1764	TEMPERATURE DATA FAIL RR		
C1765	WSSP DATA FAIL FL	The low tire pressure warning lamp repeats blinking at 0.5-second intervals for 1 minute, and then stays illuminated.	WT-44, "DTC Description"
C1766	WSSP DATA FAIL FR		
C1767	WSSP DATA FAIL RL		
C1768	WSSP DATA FAIL RR		
C1769	CONFIG SETTING	The low tire pressure warning lamp repeats blinking at 0.5-second intervals for 1 minute, and then stays illuminated.	WT-44, "DTC Description"
C1770	G SENSOR FAIL FL	OFF	WT-48, "DTC Description"
C1771	G SENSOR FAIL FR		
C1772	G SENSOR FAIL RL		
C1773	G SENSOR FAIL RR		

DTC	Items (CONSULT screen terms)	Low tire pressure warning lamp	Reference
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-50, "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-51, "DTC Description"

NOTE:
If some DTCs are displayed at the same time, refer to WT-15, "DTC Inspection Priority Chart".

BCM, IPDM E/R

List of ECU Reference

INFOID:0000000014417935

ECU	Reference
BCM	BCS-32, "Reference Value"
	BCS-51, "Fail Safe"
	BCS-51, "DTC Inspection Priority Chart"
	BCS-52, "DTC Index"
IPDM E/R	PCS-14, "Reference Value"
	PCS-22, "Fail Safe"
	PCS-23, "DTC Index"

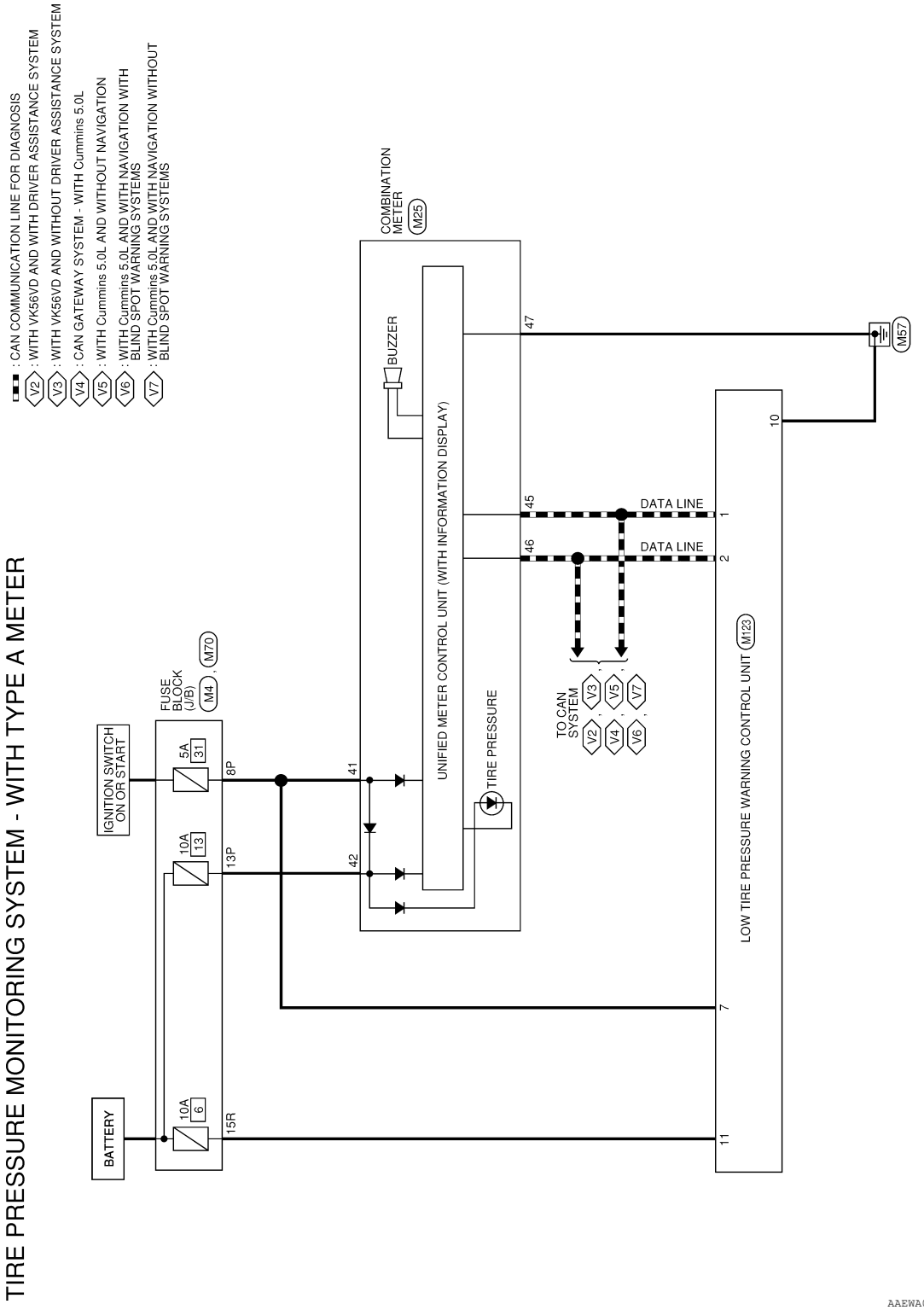
WIRING DIAGRAM

TIRE PRESSURE MONITORING SYSTEM

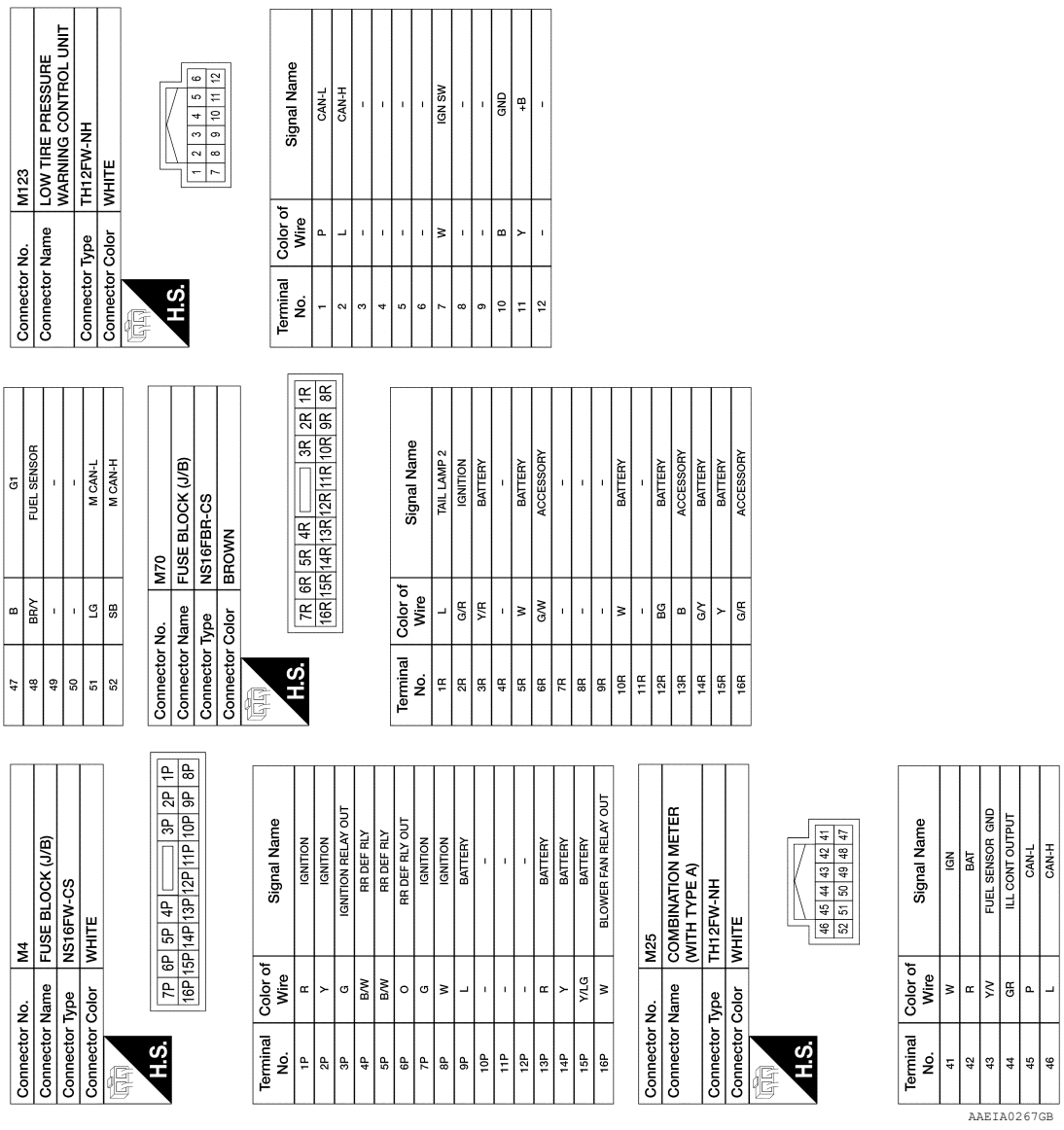
COMBINATION METER (TYPE A)

COMBINATION METER (TYPE A) : Wiring Diagram

INFOID:0000000014417936



TIRE PRESSURE MONITORING SYSTEM CONNECTORS - WITH TYPE A METER

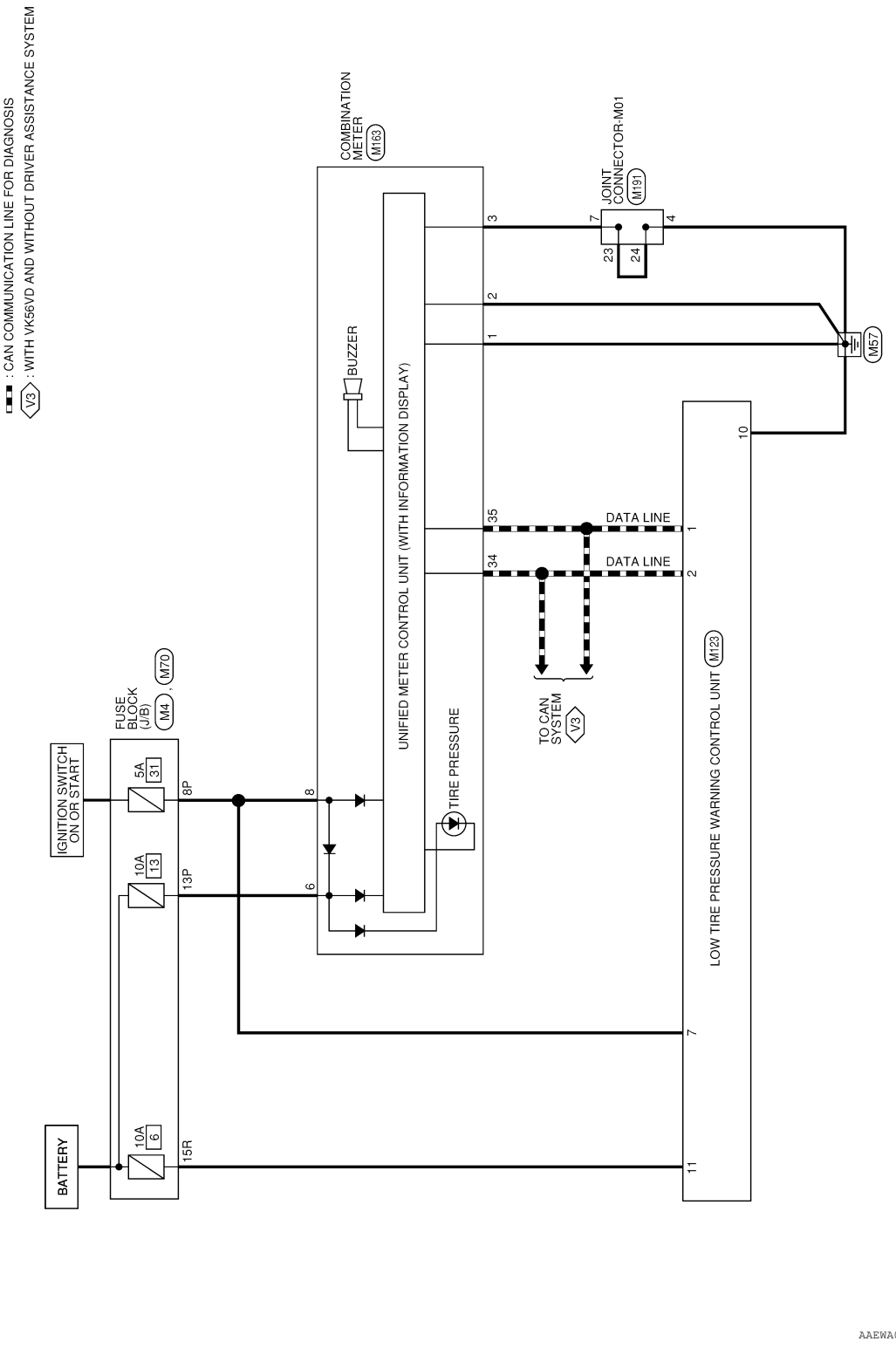


COMBINATION METER (TYPE B)

COMBINATION METER (TYPE B) : Wiring Diagram

INFOID:0000000014417937

TIRE PRESSURE MONITORING SYSTEM - WITH TYPE B METER



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TIRE PRESSURE MONITORING SYSTEM CONNECTORS - WITH TYPE B METER

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS
Connector Color	WHITE

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

Terminal No.	Color of Wire	Signal Name
1P	R	IGNITION
2P	Y	IGNITION
3P	G	IGNITION RELAY OUT
4P	B/W	RR DEF RLY
5P	B/W	RR DEF RLY
6P	O	RR DEF RLY OUT
7P	G	IGNITION
8P	W	IGNITION
9P	L	BATTERY
10P	–	–
11P	–	–
12P	–	–
13P	R	BATTERY
14P	Y	BATTERY
15P	Y/LG	BATTERY
16P	W	BLOWER FAN RELAY OUT

8R	–	–
9R	–	–
10R	W	BATTERY
11R	–	–
12R	BG	BATTERY
13R	B	ACCESSORY
14R	G/Y	BATTERY
15R	Y	BATTERY
16R	G/R	ACCESSORY

Connector No.	M123
Connector Name	LOW TIRE PRESSURE WARNING CONTROL UNIT
Connector Type	TH12FW-NH
Connector Color	WHITE

H.S.

1	2	3	4	5	6
7	8	9	10	11	12

Terminal No.	Color of Wire	Signal Name
1	P	CAN-L
2	L	CAN-H
3	–	–
4	–	–
5	–	–
6	–	–
7	W	IGN SW
8	–	–
9	–	–
10	B	GND
11	Y	+B
12	–	–

Connector No.	M70
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FBR-CS
Connector Color	BROWN

H.S.

7R	6R	5R	4R		3R	2R	1R
16R	15R	14R	13R	12R	11R	10R	9R	8R

Terminal No.	Color of Wire	Signal Name
1R	L	TAIL LAMP 2
2R	G/R	IGNITION
3R	Y/R	BATTERY
4R	–	–
5R	W	BATTERY
6R	G/W	ACCESSORY
7R	–	–

Connector No.	M163
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Type	TH40FW-NH
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
1	B	GND (ILL)
2	B	GND (CIRCUIT)
3	B	GND (POWER)
4	–	–
5	–	–
6	R	BAT
7	V	SECURITY
8	W	IGN
9	BG	AS BELT SW (W/O ODS)
10	LG	TOW MODE SW
11	BR	CHG
12	B	SATELLITE SW GND
13	B	STRG SW GND
14	R	ACC
15	W	OUTSIDE TEMP SENSOR
16	O	AIR BAG
17	–	–
18	P	TRIP RESET SW
19	–	–
20	R	OUTSIDE TEMP GND
21	–	–
22	P	STRG SW A
23	R	STRG SW B
24	W	WASHER SW
25	–	–
26	G	PKB SW
27	P/L	AS BELT SW (WITH ODS)
28	O/B	DR BELT SW
29	–	–
30	Y/V	FUEL SENSOR GND
31	BR/Y	FUEL SENSOR
32	BR	AT SHIFT UP
33	V/W	AT SHIFT DOWN
34	L	CAN-H
35	P	CAN-L
36	W	ILL UP SW
37	R	ILL DOWN SW
38	G	8P/R OUTPUT

39	–	–
40	GR	ILL CONT OUT

Connector No.	M191
Connector Name	JOINT CONNECTOR-M01
Connector Type	NH24FW-J
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5
12	11	10	9
16	15	14	13
20	19	18	17
24	23	22	21

Terminal No.	Color of Wire	Signal Name
1	–	–
2	B	GND
3	B	GND
4	B	GROUND
5	–	–
6	B	GND
7	B	GND
8	B	GND
9	–	–
10	B	GND
11	B	GND
12	B	GND
13	B	GND
14	B	GND
15	B	GND
16	–	–
17	B	GND
18	B	GND
19	SHIELD	GROUND
20	B	GND
21	B	GND
22	B	GND
23	B	GROUND
24	B	GROUND

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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000014417938

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

1.COLLECT INFORMATION FROM CUSTOMER

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2.

2.TIRE AND WHEEL INSPECTION

Check all tires and wheels for physical damage. Refer to WT-65, "Inspection".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace as necessary.

3.TIRE PRESSURE INSPECTION

Check the tire pressure for all wheels. Refer to WT-76, "Tire".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Check tire(s), wheel(s) and valve stem(s) for air leaks. Repair or replace as necessary.

4.CHECK LOW TIRE PRESSURE WARNING LAMP

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

Does the low tire pressure warning lamp turn OFF?

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

5.PERFORM SELF DIAGNOSTIC RESULT

Perform self diagnostic result. Refer to WT-12, "CONSULT Function".

Are any DTCs displayed?

YES >> Refer to WT-16, "DTC Index". If two or more DTCs are displayed, refer to WT-15, "DTC Inspection Priority Chart".
NO >> GO TO 6.

6.PERFORM DIAGNOSIS APPLICABLE TO THE SYMPTOM

Perform diagnosis applicable to the symptom. Refer to WT-54, "Symptom Table".

>> GO TO 7.

7.FINAL CHECK

Perform self diagnostic result again, and check that the malfunction is repaired. After checking, erase the self diagnosis memory. Refer to WT-12, "CONSULT Function".

>> Inspection End.

ADDITIONAL SERVICE WHEN REPLACING LOW TIRE PRESSURE WARNING CONTROL UNIT

Description

INFOID:0000000014417939

When replacing low tire pressure warning control unit, configuration and then tire pressure sensor ID registration is required.

Work Procedure

INFOID:0000000014417940

1.PERFORM CONFIGURATION (TIRE PRESSURE MONITORING SYSTEM)

Perform configuration tire pressure monitoring system. Refer to WT-28, "Work Procedure".

>> GO TO 2.

2.PERFORM TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".

>> Work End.

ID REGISTRATION PROCEDURE

Description

INFOID:0000000014417941

This procedure must be performed after replacement of a tire pressure sensor or low tire pressure warning control unit.

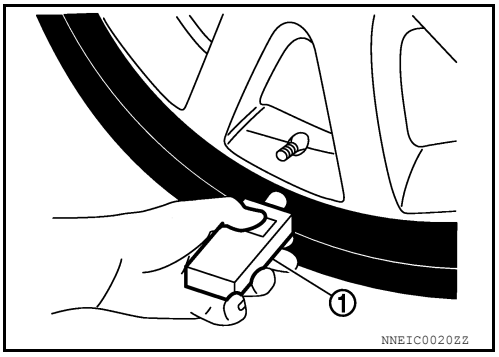
Work Procedure

INFOID:0000000014417942

TPMS ID registration can be performed using one of the following procedures:
- Transmitter Activation tool [KV48105501 (J-45295-A)] using CONSULT (preferred method)
- Signal Tech II tool [– (J-50190)] using CONSULT (preferred method)
- Signal Tech II tool [– (J-50190)] without CONSULT
- CONSULT only

TPMS REGISTRATION WITH TRANSMITTER ACTIVATION TOOL [KV48105501 (J-45295-A)]

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 transmitter activation tool [KV48105501 (J-45295-A)] (1) against the side of the left front tire, near the valve stem.
5. With the tool held at a 0 to 15 degree angle to the tire, press and hold the transmitter activation tool button until the indicator lamp turns OFF (approximately 5 seconds).
6. Repeat steps 4 and 5 for the remaining tires in this order: right front, right rear and left rear.



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

Sequence	ID registration position	Turn signal lamp	CONSULT
1	Front LH	2 blinks	“Yet (red)” ↓ “Done (green)”
2	Front RH		
3	Rear RH		
4	Rear LH		

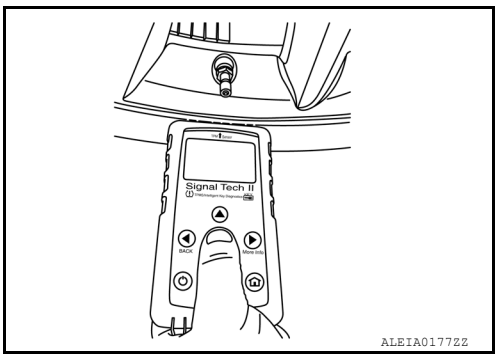
8. After the ID registration procedure for all wheels is complete, press “End” on the CONSULT to finish ID registration.
9. Test drive the vehicle to ensure that the TPMS lamp is OFF and no warning messages are present.

TPMS REGISTRATION WITH SIGNAL TECH II TOOL [– (J-50190)]

NOTE:
The Signal Tech II must be updated with the newest software version 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-76, "Tire".
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)].

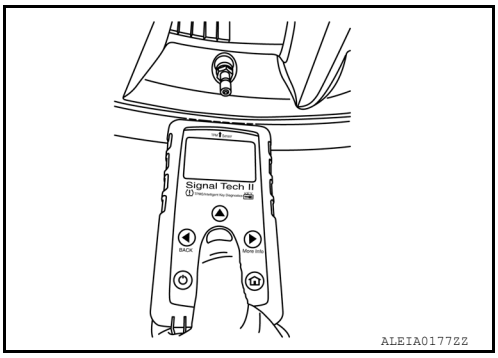
6. Hold the Signal Tech II against the side of the left front tire, near the valve stem.
7. With the tool held at a 0 to 15 degree angle to the tire, select “Activate Sensor” from the main menu, then press and release the “OK” button to activate the sensor. Once the sensor is activated, the vehicle parking 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 blinks	“Yet (red)” ↓ “Done (green)”
2	Front RH		
3	Rear RH		
4	Rear LH		

10. Once all sensors have been activated, select “End” on the CONSULT to finish ID registration.
11. Test drive the vehicle to ensure that the TPMS lamp is OFF and no warning messages are present.

Without CONSULT
1. Adjust the tire pressure for all tires to the recommended value. Refer to WT-76, "Tire".
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 low tire pressure warning control unit, 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 low tire pressure warning control unit
- RT - Wheel has been rotated
- Low Press - Low tire pressure

8. If no DTC is present or the repair has been completed, press the “OK” button to register the IDs and clear DTCs.
9. Test drive the vehicle to ensure that the TPMS lamp is OFF and no warning messages are present.
10. Print a Signal Tech II Audit Report for your records. Refer to the Signal Tech II User Guide for instructions.

TPMS REGISTRATION WITH CONSULT ONLY

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

Tire position	Tire pressure kPa (kg/cm^2, psi)
Front LH	240 (2.4, 35)
Front RH	220 (2.2, 32)

Tire position	Tire pressure kPa (kg/cm^2, psi)
Rear RH	200 (2.0, 29)
Rear LH	180 (1.8, 26)

2. Turn the ignition switch ON.
3. Using CONSULT, select “Work support” in “AIR PRESSURE MONITOR”. Then, select “ID REGIST.”
4. Select “Start” on “ID REGIST” screen.
5. Drive the vehicle at a speed greater than 40 km/h (25 MPH) for 3 minutes or more.
6. After ID registration for all wheels is complete, press “End” on the CONSULT to finish ID registration.

ID registration position	CONSULT
Front LH	“Yet (red)” ↓ “Done (green)”
Front RH	
Rear RH	
Rear LH	

7. Adjust the tire pressures for all tires to the recommended value. Refer to WT-76, "Tire".
8. Test drive the vehicle to ensure that the TPMS lamp is OFF and no warning messages are present.

CONFIGURATION (TIRE PRESSURE MONITORING SYSTEM)

Work Procedure

INFOID:0000000014417943

CAUTION:

- **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.**
- **Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".**
- **If TPMS configuration is not completed, TPMS transmitter ID registration will not complete.**

1. CHECKING ECU IDENTIFICATION NUMBER

CONSULT

1. Select “ECU Identification” of “AIR PRESSURE MONITOR”.
2. Write down ECU part number.

>> GO TO 2.

2. RE/PROGRAMMING, CONFIGURATION

CONSULT

1. Select “Re/programming, Configuration” from home screen.
2. Check box confirming the precautions have been read.
3. Select “Next”.

Is “Manual Selection (Vehicle Name)” displayed?

YES >> GO TO 3.
NO >> GO TO 4.

3. VEHICLE SELECTION

CONSULT

1. Select Vehicle Make, Vehicle Name, and correct model year.
2. Press “Select”.

>> GO TO 4.

4. VEHICLE CONFIRMATION

CONSULT

1. Verify VIN or Chassis Number matches the vehicles VIN.
2. Select “Confirm”.

>> GO TO 5.

5. INPUT VIN

1. Verify VIN number in dialog box matches vehicles VIN.
2. Select “Confirm”.

>> GO TO 6.

6. SYSTEM SELECTION

CONSULT

Select “AIR PRESSURE MONITOR”.

>> GO TO 7.

7. OPERATION SELECTION

1. Select “Manual Configuration”
2. Select the DATA PART NO. that matches the low tire pressure warning control unit part number written down in step 1.

3. Select “Next”.

>> GO TO 8.

8. WRITE CONFIGURATION

CONSULT
1. Confirm that the correct DATA PART NO. is listed.
2. Select “OK”.

>> GO TO 9.

9. CHECKING LOW TIRE PRESSURE WARNING LAMP

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON and check that the low tire pressure warning lamp turns OFF after staying illuminated for approximately two seconds.

CAUTION:
Never start the engine.

Is the inspection result normal?

YES >> GO TO 10.
NO >> Perform the “Self Diagnostic Result” in “AIR PRESSURE MONITOR”. Refer to WT-12, "CONSULT Function".

10. PERFORMING SUPPLEMENTARY WORK

1. Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".
2. Perform the self-diagnosis of all systems.
3. Erase self-diagnosis results.

>> End of work.

DTC/CIRCUIT DIAGNOSIS

C1704, C1705, C1706, C1707 LOW TIRE PRESSURE

DTC Description

INFOID:0000000014417944

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1704	LOW PRESSURE FL (Low tire pressure front left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Tire pressure drops to 193.1 kPa (1.9 kg/cm^2, 28 psi) or less
		Diagnosis delay time	–
C1705	LOW PRESSURE FR (Low tire pressure front right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Tire pressure drops to 193.1 kPa (1.9 kg/cm^2, 28 psi) or less
		Diagnosis delay time	–
C1706	LOW PRESSURE RR (Low tire pressure rear right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Tire pressure drops to 193.1 kPa (1.9 kg/cm^2, 28 psi) or less
		Diagnosis delay time	–
C1707	LOW PRESSURE RL (Low tire pressure rear left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Tire pressure drops to 193.1 kPa (1.9 kg/cm^2, 28 psi) or less
		Diagnosis delay time	–

POSSIBLE CAUSE

- Low tire pressure
- Tire pressure sensor

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

CONSULT
1. Check tire pressure for all wheels and adjust to the specified value. Refer to WT-76, "Tire".
2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
3. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
4. Check DTC.

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

YES >> Proceed to WT-31, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000014417945

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

1. TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.
NO >> Replace applicable tire pressure sensor. Refer to WT-71, "Tire Pressure Sensor".

2. CHECK TIRE PRESSURE

Check the air pressure of all wheels. Refer to WT-76, "Tire".

Is the inspection result normal?

YES >> Perform DTC CONFIRMATION PROCEDURE again. Refer to WT-30, "DTC Description".
NO >> GO TO 3.

3. CHECK TIRE PRESSURE SIGNAL

With CONSULT
1. Adjust tire pressure for all wheels to the specified value. Refer to WT-76, "Tire".
2. Select “Data Monitor” mode of “AIR PRESSURE MONITOR”.
3. Check that the air pressures match the specified value.

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace malfunctioning components.

C1708, C1709, C1710, C1711 TIRE PRESSURE SENSOR

DTC Description

INFOID:0000000014417946

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1708	[NO – DATA] – FL (No data front left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	Tire pressure data signal from the front LH wheel tire pressure sensor cannot be detected for more than 10 minutes of driving above 40 km/h (25 MPH).
		Diagnosis delay time	–
C1709	[NO – DATA] – FR (No data front right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	Tire pressure data signal from the front RH wheel tire pressure sensor cannot be detected for more than 10 minutes of driving above 40 km/h (25 MPH).
		Diagnosis delay time	–
C1710	[NO – DATA] – RR (No data rear right left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	Tire pressure data signal from the rear RH wheel tire pressure sensor cannot be detected for more than 10 minutes of driving above 40 km/h (25 MPH).
		Diagnosis delay time	–
C1711	[NO – DATA] – RL (No data rear left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	Tire pressure data signal from the rear LH wheel tire pressure sensor cannot be detected for more than 10 minutes of driving above 40 km/h (25 MPH).
		Diagnosis delay time	–

POSSIBLE CAUSE
- Driving in area with radio interference.
- ID registration incomplete
- Tire pressure sensor
- Harness or connectors
- Low tire pressure warning control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".

2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
   NOTE:
   Avoid driving in areas with radio interference.
3. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
4. Check DTC.

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

YES >> Proceed to WT-33, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000014417947

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

1. CHECK TIRE PRESSURE SIGNAL

With CONSULT
1. Select “Data Monitor” mode in “AIR PRESSURE MONITOR”.
2. Check that the air pressures match the specified value.

Monitor item	Displayed value
AIR PRESS FL	Approximately equal to specified value. Refer to WT-76, "Tire".
AIR PRESS FR	
AIR PRESS RR	
AIR PRESS RL	

Are all tire pressures displayed 0 kPa (psi)?

YES >> GO TO 2.
NO >> Replace applicable tire pressure sensor. Refer to WT-71, "Tire Pressure Sensor".

2. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT POWER SUPPLY AND GROUND

Check low tire pressure warning control unit power supply and ground. Refer to WT-53, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3. TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 4.
NO >> Replace applicable tire pressure sensor. Refer to WT-71, "Tire Pressure Sensor".

4. RECHECK TIRE PRESSURE SIGNAL

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. Select “Data Monitor” mode in “AIR PRESSURE MONITOR”.
3. Check that the air pressures match the specified value.

Monitor item	Displayed value
AIR PRESS FL	Approximately equal to specified value. Refer to WT-76, "Tire".
AIR PRESS FR	
AIR PRESS RR	
AIR PRESS RL	

Does Data Monitor display specified value without turning tire pressure warning lamp ON?

YES >> Inspection End.
NO >> Replace low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".

C1716, C1717, C1718, C1719 TIRE PRESSURE SENSOR

DTC Description

INFOID:0000000014417948

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1716	[PRESS DATA ERR] FL (Pressure data error front left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Malfunction in the tire pressure data from the front LH wheel tire pressure sensor.
		Diagnosis delay time	–
C1717	[PRESS DATA ERR] FR (Pressure data error front right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Malfunction in the tire pressure data from the front RH wheel tire pressure sensor.
		Diagnosis delay time	–
C1718	[PRESS DATA ERR] RR (Pressure data error rear right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Malfunction in the tire pressure data from the rear RH wheel tire pressure sensor.
		Diagnosis delay time	–
C1719	[PRESS DATA ERR] RL (Pressure data error rear left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Malfunction in the tire pressure data from the rear LH wheel tire pressure sensor.
		Diagnosis delay time	–

POSSIBLE CAUSE

- Excessive tire pressure
- ID registration incomplete
- Tire pressure sensor
- Low tire pressure warning control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Check tire pressure for all wheels and adjust to the specified value. Refer to WT-76, "Tire".
2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
3. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
4. Check DTC.

Is DTC C1716, C1717, C1718, or C1719 detected?

YES >> Proceed to WT-36, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000014417949

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

1. TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.
NO >> Replace applicable tire pressure sensor. Refer to WT-71, "Tire Pressure Sensor".

2. CHECK TIRE PRESSURE SIGNAL

With CONSULT
1. Adjust tire pressure for all wheels to the specified value. Refer to WT-76, "Tire".
2. Select “Data Monitor” mode of “AIR PRESSURE MONITOR”.
3. Check that the air pressures match the specified value.

Monitor item	Displayed value
AIR PRESS FL	Approximately equal to specified value. Refer to WT-76, "Tire".
AIR PRESS FR	
AIR PRESS RR	
AIR PRESS RL	

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".

C1729 VEHICLE SPEED SIGNAL

DTC Description

INFOID:0000000014417950

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1729	VHCL SPEED SIG ERR (Vehicle speed sensor error)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Vehicle speed signal (–).
		Threshold	Vehicle speed signal is not detected.
		Diagnosis delay time	–

POSSIBLE CAUSE
- CAN communication
- Low tire pressure warning control unit
- ABS actuator and electric control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
2. Perform “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
3. Check DTC.

Is DTC C1729 detected?

YES >> Proceed to WT-37, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000014417951

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

1.PERFORM SELF DIAGNOSTIC RESULT FOR ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

With CONSULT
Perform “Self Diagnostic Result” for “ABS”. Refer to BRC-43, "CONSULT Function (ABS)".

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace the low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".

C1730, C1731, C1732, C1733 FLAT TIRE

DTC Description

INFOID:0000000014417952

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1730	FLAT TIRE FL (–)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Front left wheel pressure is 70 kPa (0.7 kg/cm^2, 10 psi) or less.
		Diagnosis delay time	–
C1731	FLAT TIRE FR (–)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Front right wheel pressure is 70 kPa (0.7 kg/cm^2, 10 psi) or less.
		Diagnosis delay time	–
C1732	FLAT TIRE RR (–)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Rear right wheel pressure is 70 kPa (0.7 kg/cm^2, 10 psi) or less.
		Diagnosis delay time	–
C1733	FLAT TIRE RL (–)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Tire pressure sensor signal (–).
		Threshold	Rear left wheel pressure is 70 kPa (0.7 kg/cm^2, 10 psi) or less.
		Diagnosis delay time	–

POSSIBLE CAUSE
- Low tire pressure
- Tire pressure sensor

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Check tire pressure for all wheels and adjust to the specified value. Refer to WT-76, "Tire".
2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
3. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
4. Check DTC.

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

YES >> Proceed to WT-39, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000014417953

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

1. TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.
NO >> Replace applicable tire pressure sensor. Refer to WT-71, "Tire Pressure Sensor".

2. CHECK TIRE PRESSURE

Check the air pressure of all wheels. Refer to WT-76, "Tire".

Is the inspection result normal?

YES >> Perform DTC CONFIRMATION PROCEDURE again. Refer to WT-38, "DTC Description".
NO >> GO TO 3.

3. CHECK TIRE PRESSURE SIGNAL

With CONSULT
1. Adjust tire pressure for all wheels to the specified value. Refer to WT-76, "Tire".
2. Select “Data Monitor” mode o “AIR PRESSURE MONITOR”.
3. Check that the air pressures match the specified value.

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace malfunctioning components.

C1734 CONTROL UNIT

DTC Description

INFOID:0000000014417954

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1734	CONTROL UNIT (Control unit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	TPMS malfunction in low tire pressure warning control module.
		Diagnosis delay time	–

POSSIBLE CAUSE
Low tire pressure warning control module

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
3. Check DTC.

Is DTC C1734 detected?

YES >> Proceed to WT-40, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000014417955

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

Regarding Wiring Diagram information, refer to WT-19, "COMBINATION METER (TYPE A) : Wiring Diagram".

1.CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT HARNESS CONNECTORS

Check low tire pressure warning control unit harness connectors for damage or loose connections.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace connectors.

2.CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT POWER SUPPLY AND GROUND

Check low tire pressure warning control unit power supply and ground. Refer to WT-53, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".
NO >> Repair or replace harness or connectors.

C1761, C1762, C1763, C1764 TIRE PRESSURE SENSOR

DTC Description

INFOID:0000000014417956

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1761	TEMPERATURE DATA FAIL FL (Temperature data front left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Temperature data signal (–).
		Threshold	Malfunction in the tire temperature data from the front LH wheel tire pressure sensor.
		Diagnosis delay time	–
C1762	TEMPERATURE DATA FAIL FR (Temperature data front right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Temperature data signal (–).
		Threshold	Malfunction in the tire temperature data from the front RH wheel tire pressure sensor.
		Diagnosis delay time	–
C1763	TEMPERATURE DATA FAIL RR (Temperature data rear right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Temperature data signal (–).
		Threshold	Malfunction in the tire temperature data from the rear RH wheel tire pressure sensor.
		Diagnosis delay time	–
C1764	TEMPERATURE DATA FAIL RL (Temperature data rear left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Temperature data signal (–).
		Threshold	Malfunction in the tire temperature data from the rear LH wheel tire pressure sensor.
		Diagnosis delay time	–

POSSIBLE CAUSE
- Tire pressure sensor
- Low tire pressure warning control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
3. Check DTC.

Is DTC “C1761”, “C1762”, “C1763”, or “C1764” detected?

YES >> Proceed to WT-43, "Diagnosis Procedure".
NO-1 >> Prior to repair: Refer to GI-47, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014417957

NOTE:

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

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

1. PERFORM LOW TIRE PRESSURE WARNING CONTROL UNIT SELF-DIAGNOSIS

1. Replace applicable tire pressure sensor. Refer to WT-71, "Tire Pressure Sensor".
2. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
3. Check DTC.

Is DTC “C1761”, “C1762”, “C1763”, or “C1764” detected?

YES >> Replace low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".
NO >> Inspection End.

C1765, C1766, C1767, C1768 TIRE PRESSURE SENSOR

DTC Description

INFOID:0000000014417958

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1765	WHEEL TOP DATA FAIL FL (Wheel top data front left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Wheel top data signal (–).
		Threshold	Malfunction in the wheel top data from the front LH wheel speed sensor.
		Diagnosis delay time	–
C1766	WHEEL TOP DATA FAIL FR (Wheel top data front right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Wheel top data signal (–).
		Threshold	Malfunction in the wheel top data from the front RH wheel speed sensor.
		Diagnosis delay time	–
C1767	WHEEL TOP DATA FAIL RR (Wheel top data rear right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Wheel top data signal (–).
		Threshold	Malfunction in the wheel top data from the rear RH wheel speed sensor.
		Diagnosis delay time	–
C1768	WHEEL TOP DATA FAIL RL (Wheel top data rear left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	Wheel top data signal (–).
		Threshold	Malfunction in the wheel top data from the rear LH wheel speed sensor.
		Diagnosis delay time	–

POSSIBLE CAUSE
Wheel speed sensor

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
3. Check DTC.

Is DTC “C1765”, “C1766”, “C1767”, or “C1768” detected?

YES >> Proceed to WT-43, "Diagnosis Procedure".
NO-1 >> Prior to repair: Refer to GI-47, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014417959

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

When DTC “C1765, C1766, C1767, C1768” is detected, perform ABS system diagnosis.

>> Perform ABS system diagnosis. Refer to BRC-55, "DTC Index".

C1769 CONFIGURATION SETTING

DTC Description

INFOID:0000000014417960

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1769	CONFIG SETTING (Configuration setting)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	• Tire Pressure Monitoring System (TPMS) configuration has not been performed. • Receiver ID registration cannot be performed.
		Diagnosis delay time	–

POSSIBLE CAUSE
- Configuration is not completed.
- The ID registration is not completed.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
3. Check DTC.

Is DTC “C1769” detected?

YES >> Proceed to WT-46, "Diagnosis Procedure".
NO-1 >> Prior to repair: Refer to GI-47, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014417961

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

1.TIRE PRESSURE MONITORING SYSTEM CONFIGURATION

Perform configuration. Refer to WT-28, "Work Procedure".

>> GO TO 2.

2.TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".

Does low tire pressure warning lamp turn OFF?

YES >> Inspection End.
NO >> Perform configuration of TPMS again. Refer to WT-28, "Work Procedure".

C1770, C1771, C1772, C1773 G SENSOR

DTC Description

INFOID:0000000014417962

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1770	G SENSOR FAIL FL (G sensor front left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	Malfunction in the G sensor data from front LH wheel sensor.
		Diagnosis delay time	–
C1771	G SENSOR FAIL FR (G sensor front right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	Malfunction in the G sensor data from front RH wheel sensor.
		Diagnosis delay time	–
C1772	G SENSOR FAIL RL (G sensor rear right)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	Malfunction in the G sensor data from rear RH wheel sensor.
		Diagnosis delay time	–
C1773	G SENSOR FAIL RR (G sensor rear left)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	Malfunction in the G sensor data from rear LH wheel sensor.
		Diagnosis delay time	–

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

Tire pressure sensor

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
3. Check DTC.

Is DTC “C1770”, “C1771”, “C1772”, or “C1773” detected?

YES >> Proceed to WT-49, "Diagnosis Procedure".
NO-1 >> Prior to repair: Refer to GI-47, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014417963

1.REPLACE WHEEL TIRE PRESSURE SENSOR

When DTC “C1770, C1771, C1772, C1773” is detected, replace wheel tire pressure sensor.

>> Replace applicable wheel tire pressure sensor. Refer to WT-71, "Tire Pressure Sensor".

U1000 CAN COMM CIRCUIT

DTC Description

INFOID:0000000014417964

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 terms (Trouble diagnosis content)	DTC detection condition	
U1000	CAN COMM CIRCUIT (CAN communication circuit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	CAN communication signal (terminal 59 and 60)
		Threshold	Low tire pressure warning control unit is not sending or receiving CAN communication.
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- CAN communication malfunction
- Malfunction of low tire pressure warning control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

With CONSULT

1. Drive for several minutes at a speed of 40 km/h (25 MPH) or more.
2. Stop the vehicle.
3. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
4. Check DTC.

Is DTC “U1000” detected?

YES >> Proceed to WT-50, "Diagnosis Procedure".
NO-1 >> Prior to repair: Refer to GI-47, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014417965

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT

1. Turn the ignition switch ON and wait for 2 seconds or more.
2. Select “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
3. Check DTC.

Is DTC “U1000” detected?

YES >> Refer to LAN-69, "CAN COMMUNICATION SYSTEM : CAN System Specification Chart".
NO >> Inspection End.

U1010 CONTROL UNIT (CAN)

DTC Description

INFOID:0000000014417966

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 terms (Trouble diagnosis content)	DTC detection condition	
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	CAN communication signal (terminal 59 and 60)
		Threshold	Error detected during the initial diagnosis of CAN controller of low tire pressure warning control unit.
		Diagnosis delay time	–

POSSIBLE CAUSE

Low tire pressure warning control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

With CONSULT

1. Drive for several minutes at a speed of 40 km/h (25 MPH) or more.
2. Stop the vehicle.
3. Perform “Self Diagnostic Result” mode of “AIR PRESSURE MONITOR”.
4. Check DTC.

Is DTC “U1010” detected?

YES >> Proceed to WT-51, "Diagnosis Procedure".
NO-1 >> Prior to repair: Refer to GI-47, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014417967

1.REPLACE LOW TIRE PRESSURE WARNING CONTROL UNIT

When DTC “U1010” is detected, replace low tire pressure warning control unit.

>> Replace low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".

LOW TIRE PRESSURE WARNING LAMP

Component Function Check

INFOID:0000000014417968

1.CHECK THE ILLUMINATION OF THE LOW TIRE PRESSURE WARNING LAMP

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Perform trouble diagnosis. Refer to WT-52, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000014417969

1.PERFORM SELF-DIAGNOSIS

With CONSULT
Perform “Self Diagnostic Result” of “AIR PRESSURE MONITOR”.

Is any DTC detected?

YES >> Check the DTC. Refer to WT-16, "DTC Index".
NO >> GO TO 2.

2.LOW TIRE PRESSURE WARNING CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check low tire pressure warning control unit power supply and ground circuit. Refer to WT-53, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace malfunctioning components.

3.CHECK LOW TIRE PRESSURE WARNING LAMP SIGNAL

With CONSULT
1. Turn the ignition switch ON.
   CAUTION:
   Never start the engine.
2. Select “Active Test” of “AIR PRESSURE MONITOR”.
3. Select “WARNING LAMP” in “Active Test”.
4. Touch “On” and “Off” and verify proper operation of low tire pressure warning lamp.

Is the inspection result normal?

YES >> Check the combination meter. Refer to MWI-87, "COMBINATION METER : Diagnosis Procedure" (type A) or MWI-168, "COMBINATION METER : Diagnosis Procedure" (type B).
NO >> Replace the low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000014417970

Regarding Wiring Diagram information, refer to WT-19, "COMBINATION METER (TYPE A) : Wiring Diagram" or WT-21, "COMBINATION METER (TYPE B) : Wiring Diagram".

1. CHECK FUSES

Check if any of the following fuses are blown:

Component	Capacity	Fuse No.
Fuse block (J/B)	10A	6
	5A	31

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace the blown fuse after repairing the affected circuit.

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect low tire pressure warning control unit connector.
2. Turn the ignition switch ON.
3. Check voltage between low tire pressure warning control unit connector and ground.

Low tire pressure warning control unit		Ground	Voltage (Approx.)
Connector	Terminal		
M123	7	—	Battery voltage
	11		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3. CHECK GROUND CIRCUIT

Check continuity between low tire pressure warning control unit connector and ground.

Low tire pressure warning control unit		Ground	Continuity
Connector	Terminal		
M123	10	—	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

TPMS

Symptom Table

INFOID:0000000014417971

LOW TIRE PRESSURE WARNING LAMP SYMPTOM CHART

Diagnosis items	Symptom (Ignition switch ON)	Low tire pressure warning lamp	Cause	Action
Low tire pressure warning lamp	The low tire pressure 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 pressure 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-76, "Tire".
			Tire pressure monitoring system configuration not performed.	Perform configuration. Refer to WT-28, "Work Procedure".
			Tire pressure sensor ID registration not performed.	Perform ID registration. Refer to WT-25, "Work Procedure".

Diagnosis items	Symptom (Ignition switch ON)	Low tire pressure warning lamp	Cause	Action
Low tire pressure warning lamp	The low tire pressure warning lamp repeats blinking at 0.5-second intervals for 1 minute, and then stays illuminated.	 Blinks 1 min ON 0.5 sec > OFF 0.5 sec and stays ON SEIA0788E	The low tire pressure warning control unit cannot detect tire pressure data signal.	• Check visually that the tire pressure sensors are installed. If necessary, replace/install the tire pressure sensor(s) and perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure". • Remove the interference radio wave (e.g. battery charger of smart phone).
			The combination meter fuse is open or removed (or pulled out).	Check and install the combination meter fuse. If necessary, replace the fuse.
			The low tire pressure warning control unit harness connector is removed.	Check the connection conditions of the low tire pressure warning control unit harness connector, and repair if necessary.
			Tire Pressure Monitoring System (TPMS) malfunction. (except tire pressure monitoring system configuration and/or tire pressure sensor ID registration non-performed)	Perform CONSULT self-diagnosis. Refer to WT-12, "CONSULT Function".
Hazard warning lamp	The hazard warning lamp does not blink twice when performing ID registration operation.	—	ID registration is not completed.	Perform “ID REGISTRATION CANNOT BE COMPLETED” diagnosis procedure. Refer to WT-61, "Diagnosis Procedure".

LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON

Description

INFOID:0000000014417972

The low tire pressure warning lamp does not turn ON when the ignition switch is turned ON.

NOTE:

The low tire pressure warning lamp turn ON 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 combination meter may be malfunctioning or the tire pressure monitoring system may be malfunctioning if the low tire pressure warning lamp does not turn ON when the ignition switch is turned ON.

Diagnosis Procedure

INFOID:0000000014417973

NOTE:

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

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

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” mode of “AIR PRESSURE MONITOR”.
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 GI-47, "Intermittent Incident".
NO >> Replace the low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".

3. CHECK COMBINATION METER POWER SUPPLY CIRCUIT

Perform the trouble diagnosis for combination meter power supply circuit. Refer to MWI-87, "COMBINATION METER : Diagnosis Procedure" (type A) or MWI-168, "COMBINATION METER : Diagnosis Procedure" (type B).

Is the inspection result normal?

YES >> Perform combination meter diagnosis. Refer to MWI-77, "Work flow" (type A) or MWI-160, "Work flow" (type B).
NO >> Repair or replace malfunctioning components.

LOW TIRE PRESSURE WARNING LAMP STAYS ON

Description

INFOID:0000000014417974

The low tire pressure warning lamp does not turn OFF after several seconds have passed after engine starts.

Diagnosis Procedure

INFOID:0000000014417975

1.CHECK TIRE PRESSURE

1. Turn the ignition switch ON.
   CAUTION:
   Never start the engine.
2. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-76, "Tire".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Inspect or repair the tires or wheels.

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 >> Inspection End.
NO >> GO TO 3.

3.PERFORM SELF-DIAGNOSIS

With CONSULT

Perform “Self Diagnostic Result” of “AIR PRESSURE MONITOR”.

Is DTC detected?

YES >> Perform DTC diagnosis procedure. Refer to WT-16, "DTC Index".
NO >> GO TO 4.

4.CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Perform the trouble diagnosis for power supply and ground circuit. Refer to WT-53, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".
NO >> Repair or replace malfunctioning components.

LOW TIRE PRESSURE WARNING LAMP BLINKS

Description

INFOID:0000000014417976

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.

Diagnosis Procedure

INFOID:0000000014417977

1.CHECK TIRE PRESSURE SENSOR INSTALLATION

Check visually that tire pressure sensors are installed to each wheel correctly.
NOTE:
In the following case, tire pressure monitoring system (TPMS) does not function.
- Tire pressure sensor(s) are not installed.
- Tire pressure sensor(s) of other cars are installed.

Are the genuine NISSAN tire pressure sensors installed correctly?

YES >> GO TO 2.
NO >> Replace and/or Install tire pressure sensor(s). Refer to WT-71, "Tire Pressure Sensor". GO TO 3.

2.PERFORM SELF-DIAGNOSIS

With CONSULT
Perform “Self Diagnostic Result” for “AIR PRESSURE MONITOR”.

Is DTC detected?

YES >> Perform DTC diagnosis procedure. Refer to WT-16, "DTC Index".
NO >> GO TO 4.

3.TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".

Is tire pressure sensor ID registration completed?

YES >> Adjust the tire pressure for all wheels specified to the value. Refer to WT-76, "Tire".
NO >> Perform diagnosis procedure of “ID REGISTRATION CANNOT BE COMPLETED”. Refer to WT-61, "Diagnosis Procedure".

4.CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Perform the diagnosis for low tire pressure warning control unit power supply and ground circuit. Refer to WT-53, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".
NO >> Repair or replace malfunctioning components.

LOW TIRE PRESSURE LOCATION INDICATOR DOES NOT DISPLAY

Description

INFOID:0000000014417978

When low tire pressure, low tire location indicator does not display though low tire pressure warning lamp turns ON.

Diagnosis Procedure

INFOID:0000000014417979

1.CHECK COMBINATION METER

Check combination meter. Refer to MWI-77, "Work flow" (type A) or MWI-160, "Work flow" (type B).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK LOW TIRE PRESSURE WHEEL LOCATION INDICATOR OPERATION

Check that the low tire pressure location indicator 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 GI-47, "Intermittent Incident".
NO >> Replace the low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".

LOW TIRE PRESSURE LOCATION INDICATOR CONTINUES DISPLAYING

Description

INFOID:0000000014417980

The low tire pressure location indicator continues displaying though low tire pressure warning lamp turns/stays OFF.

Diagnosis Procedure

INFOID:0000000014417981

1.CHECK TIRE PRESSURE

1. Turn the ignition switch ON.
   CAUTION:
   Never start the engine.
2. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-76, "Tire".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Inspect or repair the tires or wheels.

2.CHECK LOW TIRE PRESSURE LOCATION INDICATOR

Check low tire pressure location indicator.

Does low tire pressure location indicator continue displaying?

YES >> GO TO 3.
NO >> Inspection End.

3.PERFORM SELF-DIAGNOSIS

With CONSULT

Perform “Self Diagnostic Result” of “AIR PRESSURE MONITOR”.

Is DTC detected?

YES >> Perform DTC diagnosis procedure. Refer to WT-16, "DTC Index".
NO >> GO TO 4.

4.CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Perform the trouble diagnosis for power supply and ground circuit. Refer to WT-53, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace low tire pressure warning control unit Refer to WT-75, "Removal and Installation".
NO >> Repair or replace malfunctioning components.

ID REGISTRATION CANNOT BE COMPLETED

Description

INFOID:0000000014417982

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:0000000014417983

1.CHECK TIRE PRESSURE SENSOR ACTIVATION TOOL

Check tire pressure sensor activation tool.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace the battery of tire pressure sensor activation tool or repair/replace the tire pressure sensor activation tool.

2.TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-25, "Work Procedure".

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 3.

3.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 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 WT-71, "Tire Pressure Sensor".
All wheels do not react.>>Replace low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".

EASY FILL TIRE ALERT DOES NOT ACTIVATE

Description

INFOID:0000000014417984

The Easy Fill tire alert does not function while inflating a tire when the select lever position is in P-range with the ignition switch ON.

NOTE:

- After starting to inflate the tire, it takes a few seconds for the easy fill tire alert to function.
- If there is no response for approximately 15 seconds or more after inflating the tires, cancel the use of the Easy Fill tire alert function or move the vehicle approximately 1 m (3.2 ft.) backward or forward to try again. The air filler pressure may be weak or out of service area.
- For Easy Fill tire alert, Refer to WT-11, "Easy Fill Tire Alert Function".

Diagnosis Procedure

INFOID:0000000014417985

1. LOCATION CHANGE

Move the vehicle to other area and repeat the procedure of the Easy Fill tire alert function. Refer to WT-11, "Easy Fill Tire Alert Function".

Is the function normal?

YES >> Inspection End.
NO >> GO TO 2.

2. PERFORM LOW TIRE PRESSURE WARNING CONTROL UNIT SELF-DIAGNOSIS

With CONSULT

Perform “Self Diagnostic Result” of “AIR PRESSURE MONITOR”.

Is any DTC detected?

YES >> Perform diagnosis for detected DTC. Refer to WT-16, "DTC Index".
NO >> GO TO 3.

3. CHECK HAZARD WARNING LAMP OPERATION

Check hazard warning lamp operation with hazard switch.

Does the hazard warning lamps operate?

YES >> GO TO 4.
NO >> Refer to EXL-119, "Diagnosis Procedure" (halogen headlamp) or EXL-277, "Diagnosis Procedure" (LED headlamp).

4. PERFORM SELF DIAGNOSTIC RESULT FOR TCM

With CONSULT

Perform “Self Diagnostic Result” of “TRANSMISSION”.

Is any DTC detected?

YES >> Perform diagnosis for detected DTC. Refer to TM-69, "DTC Index" (RE6R10A) or TM-334, "DTC Index" (RE7R01B).
NO >> GO TO 5.

5. CHECK HORN OPERATION

Check horn operation.

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace malfunctioning components.

6. 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 Diagnostic Result” of “AIR PRESSURE MONITOR”.

Is any DTC detected?

YES >> Perform diagnosis for detected DTC. Refer to WT-16, "DTC Index".
NO >> Replace low tire pressure warning control unit. Refer to WT-75, "Removal and Installation".

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:0000000014417986

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

Reference page			WT-69	WT-65	WT-66	WT-76	WT-67	WT-65	—	WT-76	DLN-117 (TX91A)	DLN-145 [2F(Single Cardan)], DLN-154 [2F(Double Cardan)]	DLN-163 [3F (2CVJ)], [3S (2CVJ)]	FAX-5, FSU-5	RAX-4, RSU-4	DLN-181 (MA235), DLN-211 (MA210)	DLN-246 (MA248), DLN-285 [MA248 (ELD)], DLN-382 (MA241), DLN-413 [MA241 (ELD)]	BR-7, ST-33
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	TRANSFER (4WD)	FRONT PROPELLER SHAFT (4WD)	REAR PROPELLER SHAFT	FRONT AXLE AND FRONT SUSPENSION	REAR AXLE AND REAR SUSPENSION	FRONT FINAL DRIVE (4WD)	REAR FINAL DRIVE	BRAKE AND STEERING
Symptom	TIRE	Noise	×	×	×	×	×	×	×		×	×	×	×	×	×	×	×
		Shake	×	×	×	×	×	×		×	×	×	×	×	×			×
		Vibration				×				×	×	×	×	×	×			×
		Shimmy	×	×	×	×	×	×	×	×				×	×			×
		Shudder	×	×	×	×	×	×		×				×	×			×
		Poor quality ride or handling	×	×	×	×	×	×		×				×				
	WHEEL	Noise	×	×	×			×			×	×	×	×	×	×	×	×
		Shake	×	×	×			×			×	×	×	×	×			×
		Shimmy, Shudder	×	×	×			×						×	×			×
		Poor quality ride or handling	×	×	×			×						×	×			

×: Applicable

PERIODIC MAINTENANCE

WHEEL

Inspection

INFOID:0000000014417987

WHEEL

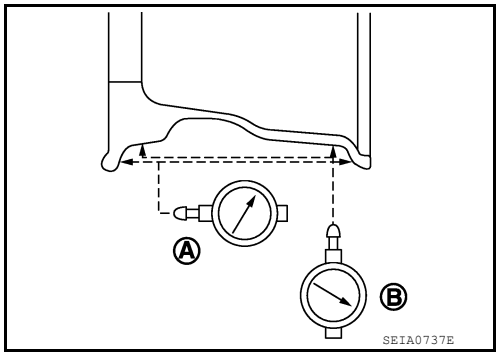
1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.
3. Remove tire from wheel and mount wheel on a balancer machine.

CAUTION:

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

a. Set dial indicator as shown.

b. Check runout. If runout value exceeds limit, replace wheel.



Axial Runout (A) : Refer to WT-76, "Wheel".

Radial Runout (B) : Refer to WT-76, "Wheel".

WHEEL AND TIRE

Balancing Wheels

INFOID:0000000014417988

BALANCING WHEELS (ADHESIVE WEIGHT TYPE)

Preparation Before Adjustment

Remove inner and outer balance weights from the wheel and tire using releasing agent. Remove double-faced adhesive tape from the wheel and tire.

CAUTION:

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

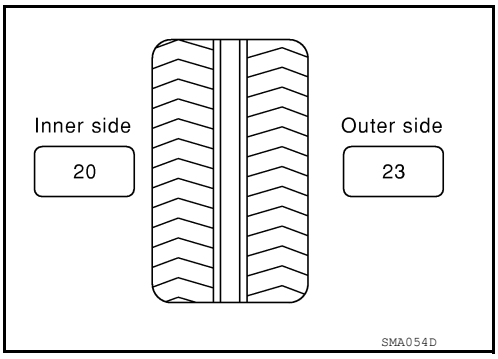
Wheel Balance Adjustment

CAUTION:

- **DO NOT use center hole cone-type clamping machines to hold the wheel during tire removal/installation or balancing or damage to the wheel paint, cladding or chrome may result. Use only rim-type or universal lug-type clamping machines to hold the wheel assembly during servicing.**
- If a balancer machine has an adhesive weight mode setting, select the adhesive weight mode setting and skip Step 2. below. If a balancer machine only has the clip-on (rim flange) weight mode setting, follow Step 2. to calculate the correct size adhesive weight.

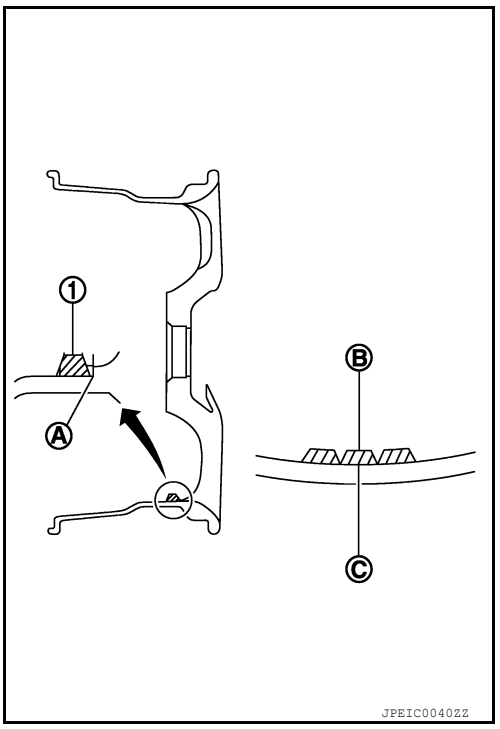
1. Set wheel and tire on balancer machine using the center hole as a guide. Start the balancer machine.
2. For balancer machines that only have a clip-on (rim flange) weight mode setting, follow this step to calculate the correct size adhesive weight to use. When inner and outer imbalance values are shown on the balancer machine indicator, multiply outer imbalance value by 5/3 (1.67) to determine balance weight that should be used. Select the outer balance weight with a value closest to the calculated value above and install in to the designated outer position of, or at the designated angle in relation to the wheel and tire.

a. Indicated imbalance value × 5/3 (1.67) = balance weight to be installed
Calculation example:
23 g (0.81 oz) × 5/3 (1.67) = 38.33 g (1.35 oz) ⇒ 40 g (1.41 oz) balance weight (closer to calculated balance weight value)
NOTE:
Note that balance weight value must be closer to the calculated balance weight value.
Example:
37.4 ⇒ 35 g (1.23 oz)
37.5 ⇒ 40 g (1.41 oz)

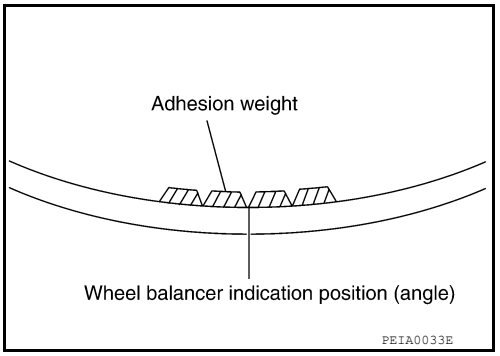


3. Install balance weight in the position shown.
CAUTION:
- **Do not install the inner balance weight before installing the outer balance weight.**
- **Before installing the balance weight, be sure to clean the mating surface of the wheel and tire.**
- When installing balance weight (1) to wheel and tire, set it into the grooved area (A) on the inner wall of the wheel and tire as shown so that the balance weight center (B) is aligned with the balancer machine indication position (angle) (C).

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



4. If calculated balance weight value exceeds 50 g (1.76 oz), install two balance weight sheets in line with each other as shown.
CAUTION:
Do not install one balance weight sheet on top another.



5. Start balancer machine again.
6. Install balance weight on inner side of wheel and tire in the balancer machine indication position (angle).
CAUTION:
Do not install more than two balance weights.
7. Start balancer machine. Make sure that inner and outer residual imbalance values are 5 g (0.17 oz) each or below.
8. If either residual imbalance value exceeds 5 g (0.17 oz), repeat installation procedures.

Wheel balance	Dynamic (At flange)	Static (At flange)
Maximum allowable imbalance	Refer to WT-76, "Wheel".	

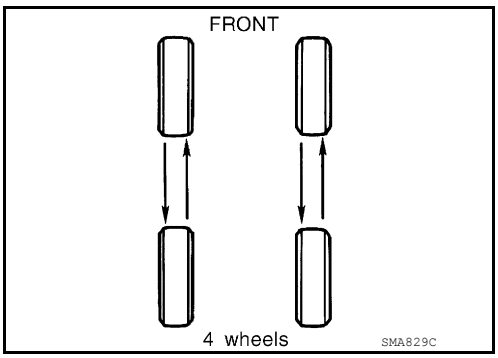
Rotation

INFOID:0000000014417989

TIRE ROTATION

- Follow maintenance schedule for tire rotation service intervals. Refer to MA-7, "General Maintenance" (VK56VD) or MA-56, "General Maintenance" (CUMMINS 5.0L).

- Rotate wheel and tires front to back in pattern as shown. When installing wheel, tighten wheel nuts to specified torque. Refer to WT-69, "Exploded View"



WARNING:
- **Do not include spare tire when rotating tires.**
- **After rotating tires, check and adjust tire pressure.**

CAUTION:
- **Do not include spare tire when rotating tires.**
- **When installing wheel nuts, tighten them diagonally by dividing the work two to three times in order to prevent wheels from developing any distortion.**
- **Be careful not to tighten the wheel nuts to a torque exceeding specification to prevent strain on the disc rotor.**
- **Use Genuine NISSAN wheel nuts for wheels.**
- **After rotating wheel and tires, do not use Easy Fill Alert to adjust tire pressures. Use tire gauge to measure and adjust tire pressures in accordance with tire placard.**

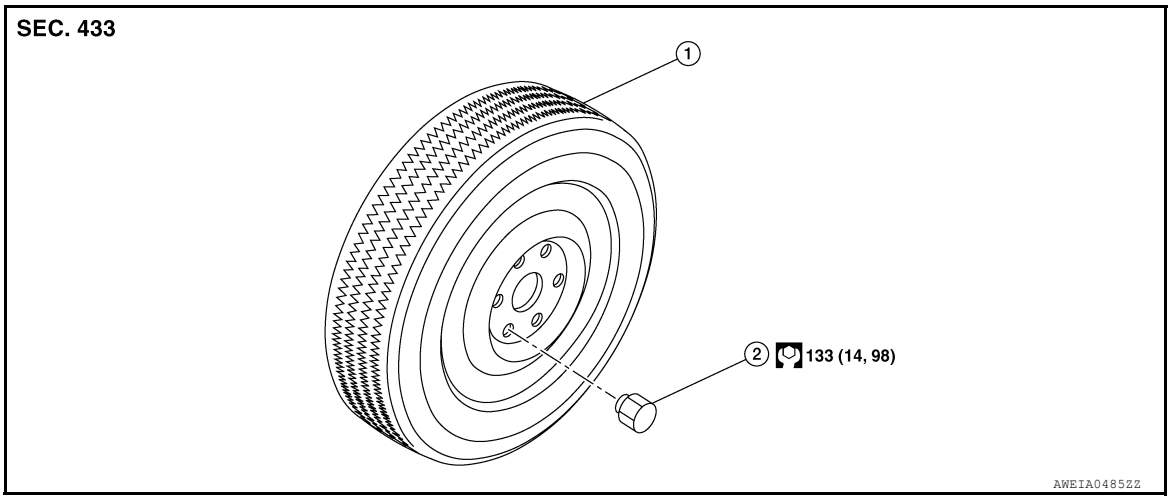
REMOVAL AND INSTALLATION

WHEEL AND TIRE

Exploded View

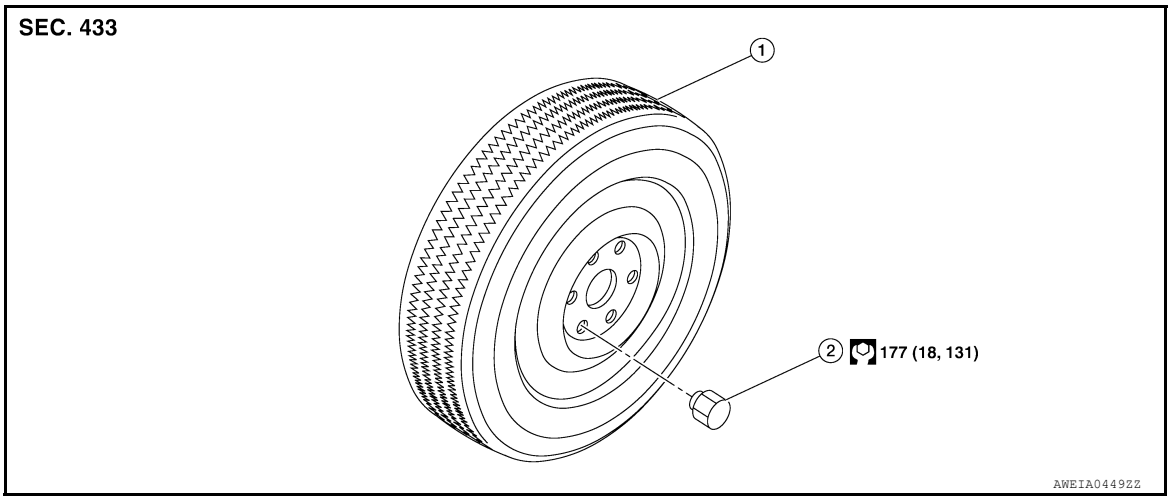
INFOID:0000000014417990

Non-XD Models



1. Wheel and tire
2. Wheel nut

XD Models



1. Wheel and tire
2. Wheel nut

Removal and Installation

INFOID:0000000014417991

REMOVAL

1. Remove wheel nuts using power tool.
2. Remove wheel and tire.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

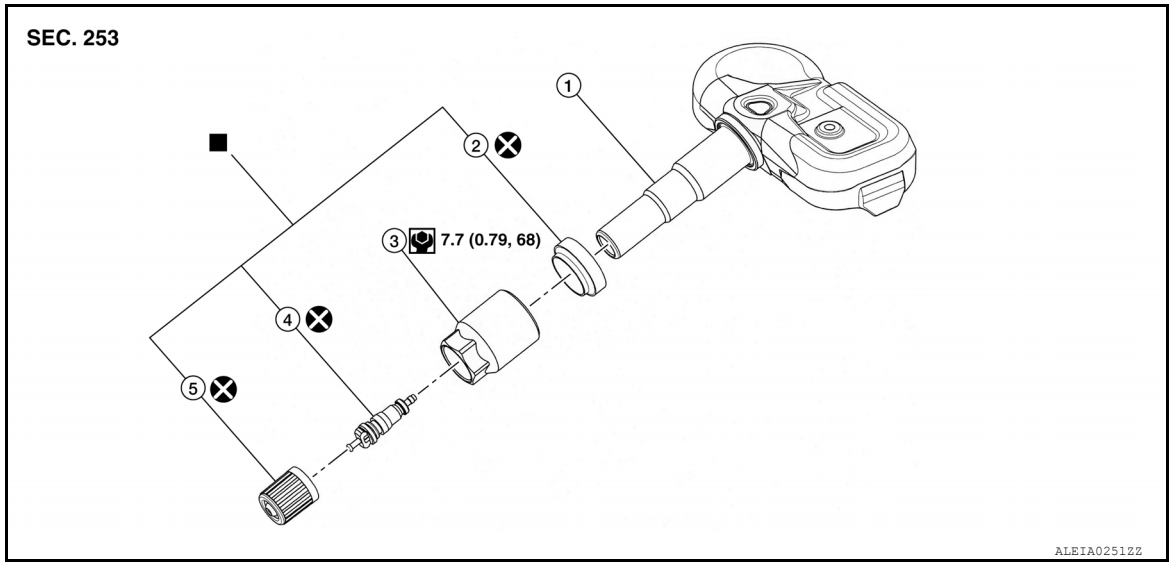
- **When installing wheel nuts, tighten them diagonally by dividing the work two or three times in order to prevent wheels from developing any distortion.**

- **Be careful not to tighten wheel nuts to a torque exceeding specification to prevent strain on disc brake rotor.**
- **Use Genuine NISSAN wheel nuts.**

TIRE PRESSURE SENSOR

Exploded View

INFOID:0000000014417992



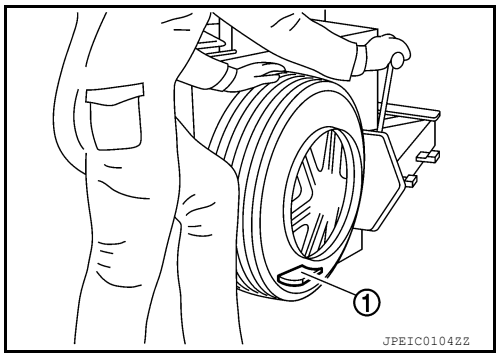
1. Tire pressure sensor
2. Grommet seal
3. Valve stem nut
4. Valve core
5. Valve cap
■ Parts that are replaced as a set when the tire is replaced.

Tire Pressure Sensor

INFOID:0000000014417993

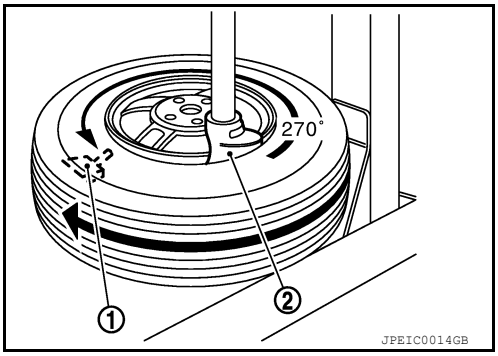
REMOVAL

1. Remove wheel and tire using power tool. Refer to WT-69, "Removal and Installation".
2. Remove valve cap and valve core to deflate the tire.
   NOTE:
   If the tire is to be reused, apply a matching mark on the tire in line with the position of the valve stem assembly for the purpose of wheel and tire balance adjustment after installation.
3. Remove the valve stem nut and allow tire pressure sensor (1) to fall into tire.
4. Lubricate the tire outside bead well with a suitable non-silicone lubricant, and remove outside of tire from the wheel.
   CAUTION:
   - **Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.**
   - **Be sure not to damage the wheel or tire pressure sensor.**
   - **Do not allow lubricant to make contact with tire pressure sensor.**
   - **Verify that the tire pressure sensor (1) is at the bottom of the tire while performing the above.**



5. Lubricate the tire inside bead well with a suitable non-silicone lubricant, and remove inside of tire from the wheel.
   CAUTION:
   - **Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.**
   - **Be sure not to damage the wheel.**
6. Set tire onto the tire changer turntable so that the tire pressure sensor inside the tire is located close to the valve stem hole in the wheel.

7. Turn tire so that the valve stem hole in the wheel is at the bottom and bounce so that the tire pressure sensor (1) inside the tire is near the valve stem hole in the wheel. Carefully lift tire onto turn table and position the valve stem hole in the wheel (and tire pressure sensor) 270 degrees from mounting/dismounting head (2).
CAUTION:
Do not damage the wheel or tire pressure sensor.

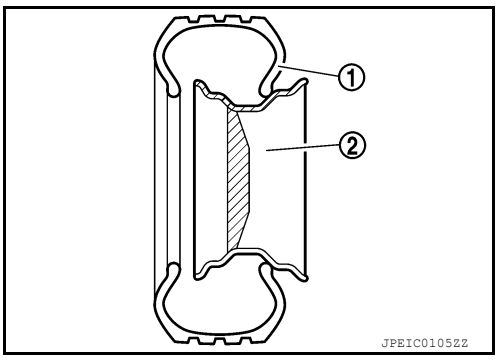


8. Remove the tire pressure sensor from the tire.
9. Remove the grommet seal.

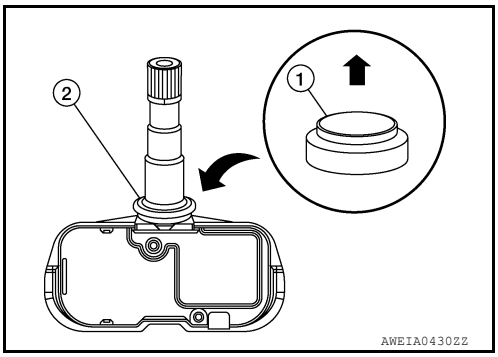
INSTALLATION

1. Apply a suitable non-silicone lubricant to the tire inside bead.
CAUTION:
- **Replace the tire pressure sensor if the valve stem has deformations, cracks, damage, or corrosion.**
- **Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.**
- **Do not drop or strike the tire pressure sensor. Replace the tire pressure sensor if it has been dropped from higher than one meter.**

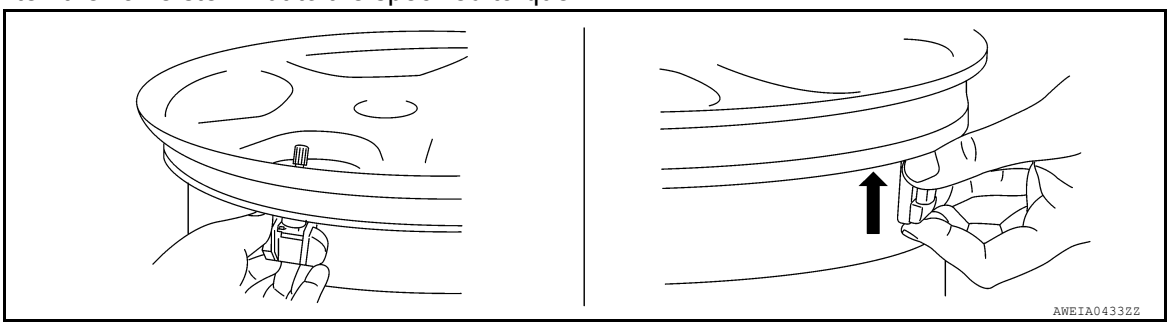
2. Install the tire inside bead (1) onto the wheel (2) in the position shown.



3. Install the grommet seal (1) onto the valve stem (2) as shown (⬅).
CAUTION:
- **Do not reuse grommet seal.**
- **Check the direction of the grommet seal.**
- **Insert new grommet seal all the way to the base of tire pressure sensor valve stem.**



4. Hold tire pressure sensor as shown and install the tire pressure sensor in the direction shown (⬅). Tighten the valve stem nut to the specified torque.

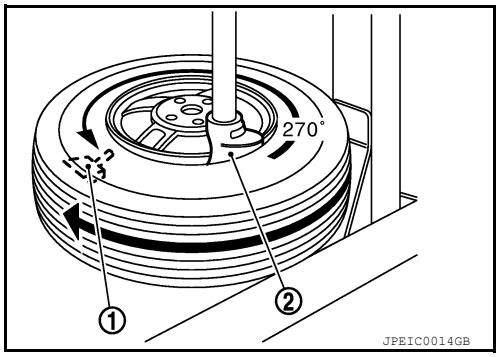


Valve stem nut tightening torque : Refer to WT-71, "Exploded View".

CAUTION:
- **Do not reuse valve core and valve cap.**
- **Check that grommet seal is free of foreign matter.**
- **Do not push the tire pressure sensor body in any direction other than indicated by the arrow (⬅) when installing valve stem nut to avoid damage to the grommet seal.**
- **Check that grommet seal contacts completely with wheel.**
- **Check that grommet seal is not pinched or folded over in, as this can cause a air leak.**
- **Manually tighten valve stem nut all the way to the wheel. (Do not use a power tool to avoid impact.)**
- **Do not tighten valve stem nut to more than the specified torque. It may cause grommet seal damage.**
- **Do not tighten valve stem nut to less than the specified torque. It may cause an air leak.**

5. Place wheel on turntable of tire machine. Ensure that tire pressure sensor (1) is 270 degrees from mounting/dismounting head (2).

CAUTION:
Do not touch tire pressure sensor with mounting head.



6. Apply a suitable non-silicone lubricant to the tire outside bead.

CAUTION:
- **Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.**
- **Do not allow lubricant to make contact with tire pressure sensor.**
- **When installing, check that the tire turns together with the wheel to prevent damage to the tire pressure sensor from contact with the tire bead.**

7. Install tire outside bead onto wheel using same process as inside bead.

NOTE:
If the tire is being reused, align the matching mark applied on the tire with the position of the valve stem assembly for the purpose of wheel and tire balance adjustment after installation. Make sure that the tire does not rotate relative to wheel.

8. Install the valve core and inflate tire. Refer to WT-76, "Tire".

CAUTION:
Do not reuse valve core.

9. Install the valve cap.

CAUTION:
Do not reuse valve cap.

10. Balance the wheel and tire. Install wheel and tire in the appropriate position on vehicle. Refer to WT-66, "Balancing Wheels".
11. Perform the ID registration procedure. Refer to WT-25, "Description".

NOTE:
If replacing the tire pressure sensor, then the ID registration procedure must be performed.

Disposal

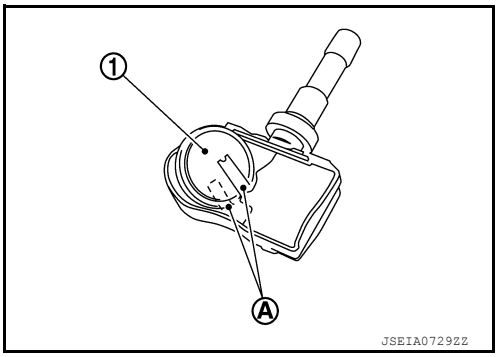
INFOID:0000000014417994

CAUTION:
- **When discarding tire pressure sensor, remove battery from tire pressure sensor.**
- **Dispose of battery according to the law and local regulations.**

1. Remove battery (1) from tire pressure sensor.
   NOTE:
   The battery is sealed to the tire pressure sensor with urethane.

a. Remove urethane from tire pressure sensor.

b. Cut battery terminal (A), then remove battery from tire pressure sensor.



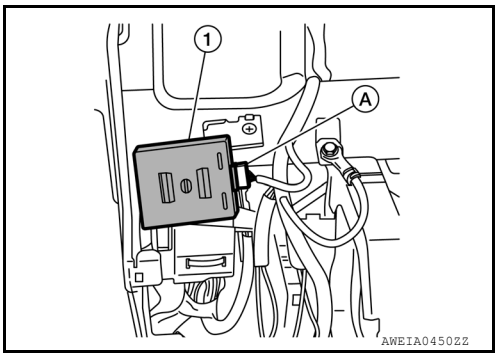
LOW TIRE PRESSURE WARNING CONTROL UNIT

Removal and Installation

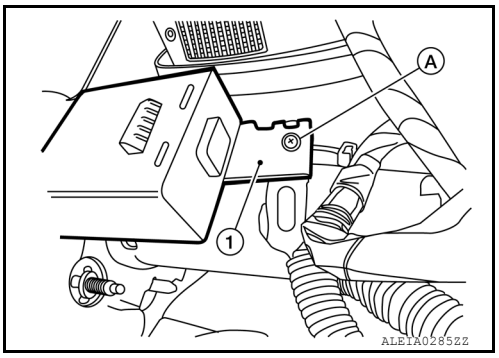
INFOID:0000000014417995

REMOVAL

1. Disconnect the battery or batteries. Refer to PG-185, "Battery Disconnect".
2. Remove Instrument Lower Panel LH. Refer to IP-22, "Removal and Installation".
3. Disconnect Harness connector (A) from low tire pressure warning control unit (1).



4. Remove screw (A) from bracket (1).



5. Remove low tire pressure warning control unit.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

When replacing low tire pressure warning control unit, configuration and then tire pressure sensor ID registration is required. Refer to WT-24, "Description".

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel

INFOID:0000000014417996

Wheel type		Aluminum	Steel	
			Inside	Outside
Runout	Lateral mm (in)	0.3 (0.012) or less	0.8 (0.031) or less	0.8 (0.031) or less
	Radial mm (in)	0.3 (0.012) or less	0.8 (0.031) or less	0.8 (0.031) or less
Allowable imbalance	Dynamic (at rim flange)	Less than 5 g (0.18 oz) (one side)		
	Static (at rim flange)	Less than 10 g (0.35 oz)		
Non-XD Models SL & Platinum Reserve Grades	Wheel size mm (in)	508.0 X 203.2 (20 X 8.0 J)	—	
Non-XD Models Pro-4X Grade		457.2 X 203.2 (18 X 8.0 J)	—	
Non-XD Models SV Grade		508.0 X 203.2 (20 X 8.0 J)	457.2 x 203.2 (18 x 8.0 J)	
Non-XD Models S Grade		—	457.2 x 203.2 (18 x 8.0 J)	
XD Models SV, SL, & Platinum Reserve Grades		508.0 X 190.5 (20 X 7.5 J)	—	
XD Models Pro-4X Grade		457.2 X 190.5 (18 X 7.5 J)	—	
XD Models S & SV Grades		—	431.8 X 190.5 (17 X 7.5 J)	

Tire

INFOID:0000000014417997

Unit: kPa (kg/cm^2, psi)

Tire size	Air pressure		
	Front tire	Rear tire	Spare tire
LT245/75R17 E	450 (4.59, 65)	500 (5.10, 73)	500 (5.10, 73)
LT275/65R18 E	450 (4.59, 65)	450 (4.59, 65)	450 (4.59, 65)
LT265/60R20 E	450 (4.59, 65)	480 (4.90, 70)	480 (4.90, 70)
P265/70R18 114S	250 (2.55, 36)	250 (2.55, 36)	250 (2.55, 36)
265/70R18 116S	270 (2.75, 39)	270 (2.75, 39)	270 (2.75, 39)
P275/70R18 116S	240 (2.45, 35)	240 (2.45, 35)	240 (2.45, 35)
P275/60R20 114S	250 (2.55, 36)	250 (2.55, 36)	250 (2.55, 36)