SECTION WT
ROAD WHEELS & TIRES

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010244209

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, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

- **When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the 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 and wait at least three minutes before performing any service.**

Service Notice and Precautions for TPMS

INFOID:0000000010244210

WARNING:

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

- Low tire pressure warning lamp blinks for 1 minute, then turns ON when occurring any malfunction 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-20, "Work Flow".
- ID registration is required when replacing or rotating wheels, replacing tire pressure sensor or low tire pressure warning control unit. Refer to WT-21, "Work Procedure".
- Replace grommet seal, valve core and valve cap of tire pressure sensor in TPMS, when replacing each tire by reaching the wear limit. Refer to WT-61, "Removal and Installation".
- 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:0000000010244211

- 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

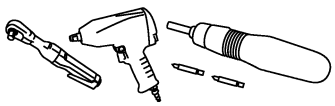
INFOID:0000000010244212

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:0000000010244213

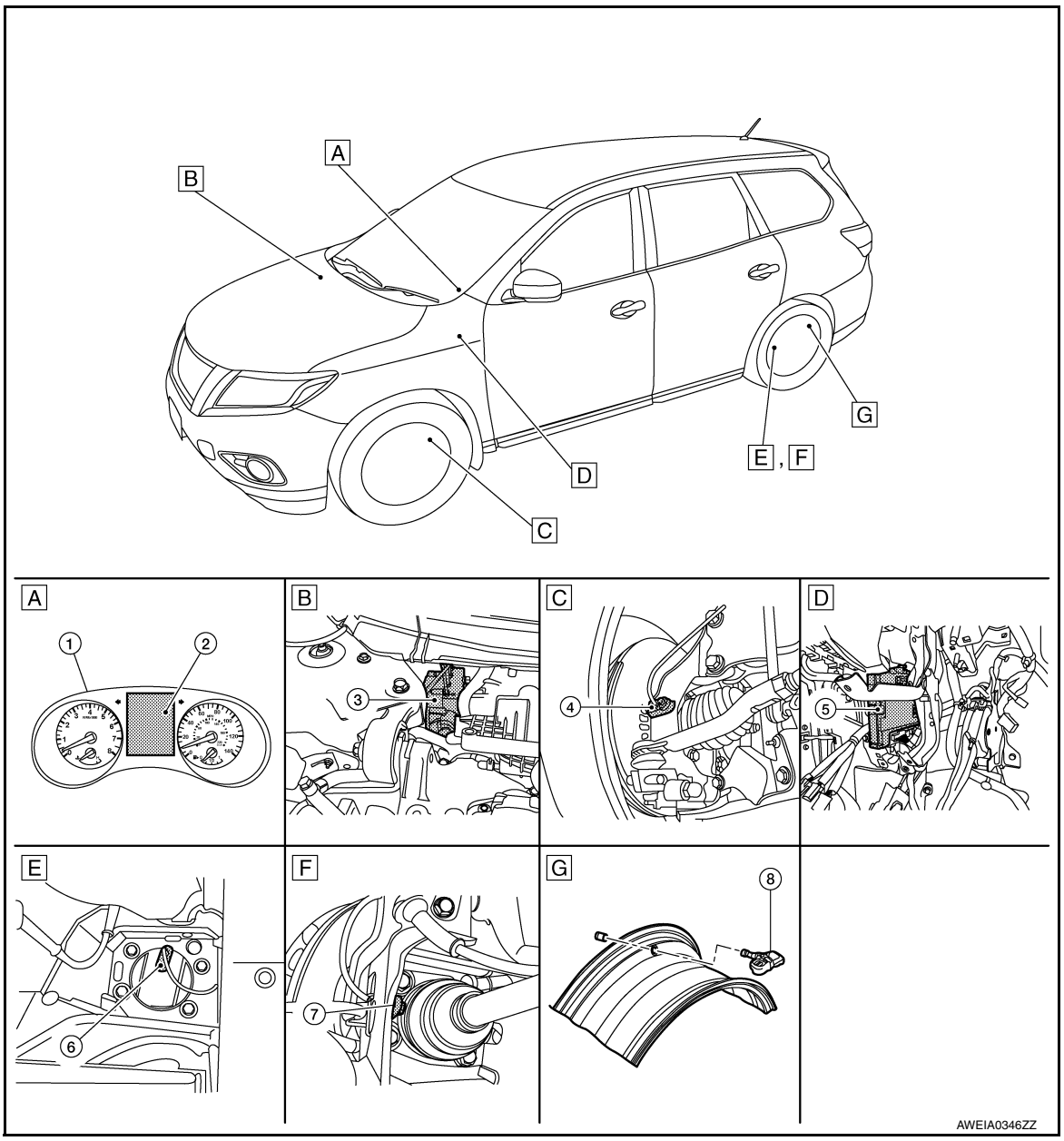
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009998803



A. Combination meter
B. Engine room (LH)
C. Left front wheel assembly
D. Behind instrument panel (LH)
E. Left rear wheel assembly
F. Left rear wheel assembly
G. Wheel

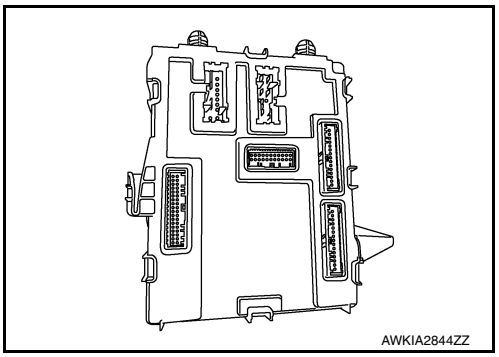
No.	Component parts	Function
1.	Combination meter	The combination meter receives tire pressure status from the BCM via CAN communication. The combination meter will display the low tire pressure warning lamp when a low tire pressure or system malfunction is detected by the BCM.
2.	Information display (in combination meter)	Refer to WT-7, "Information Display".

No.	Component parts	Function
3.	ABS actuator and electric unit (control unit)	Mainly transmits the following signals to BCM via CAN communication • Wheel sensor signal (ABS)
4.	Front wheel sensor LH	Refer to BRC-10, "Wheel Sensor and Sensor Rotor".
5.	BCM	Refer to WT-7, "BCM".
6.	Rear wheel sensor LH	Refer to BRC-10, "Wheel Sensor and Sensor Rotor".
7.	Rear wheel sensor LH (with AWD)	Refer to BRC-10, "Wheel Sensor and Sensor Rotor".
8.	Tire pressure sensor	Refer to WT-7, "Tire Pressure Sensor".

BCM

INFOID:0000000009998805

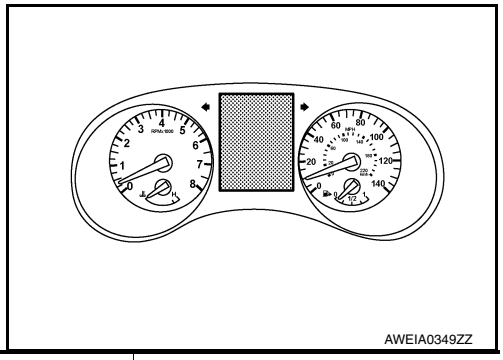
The BCM reads the air pressure signal received by the remote keyless entry receiver (without Intelligent Key System) or intelligent key receiver (with Intelligent Key System). In addition, the BCM also uses the outside key antennas (driver side, passenger side and rear bumper) to identify the location of the tire pressure sensors. The BCM has a self-diagnosis function used to detect system malfunctions.


AWKIA2844ZZ

Information Display

INFOID:0000000010205099

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


AWEIA0349ZZ

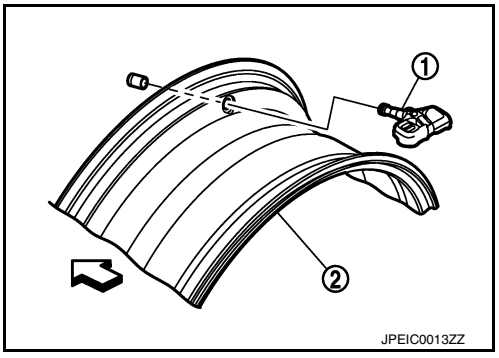
Condition		Vehicle information display
Ignition switch OFF		Not indicated
Ignition switch ON	Low tire pressure warning lamp remains ON after blinking for one minute. [Tire Pressure Monitoring System (TPMS) malfunction.]	Not indicated
Ignition switch ON	Low tire pressure warning lamp remains ON. (low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

Tire Pressure Sensor

INFOID:0000000010205098

The tire pressure sensor (1) integrated with a valve is installed on a wheel (2), and transmits a detected air pressure and temperature signal by radio wave.

⇦ : Outside



JPEIC0013ZZ

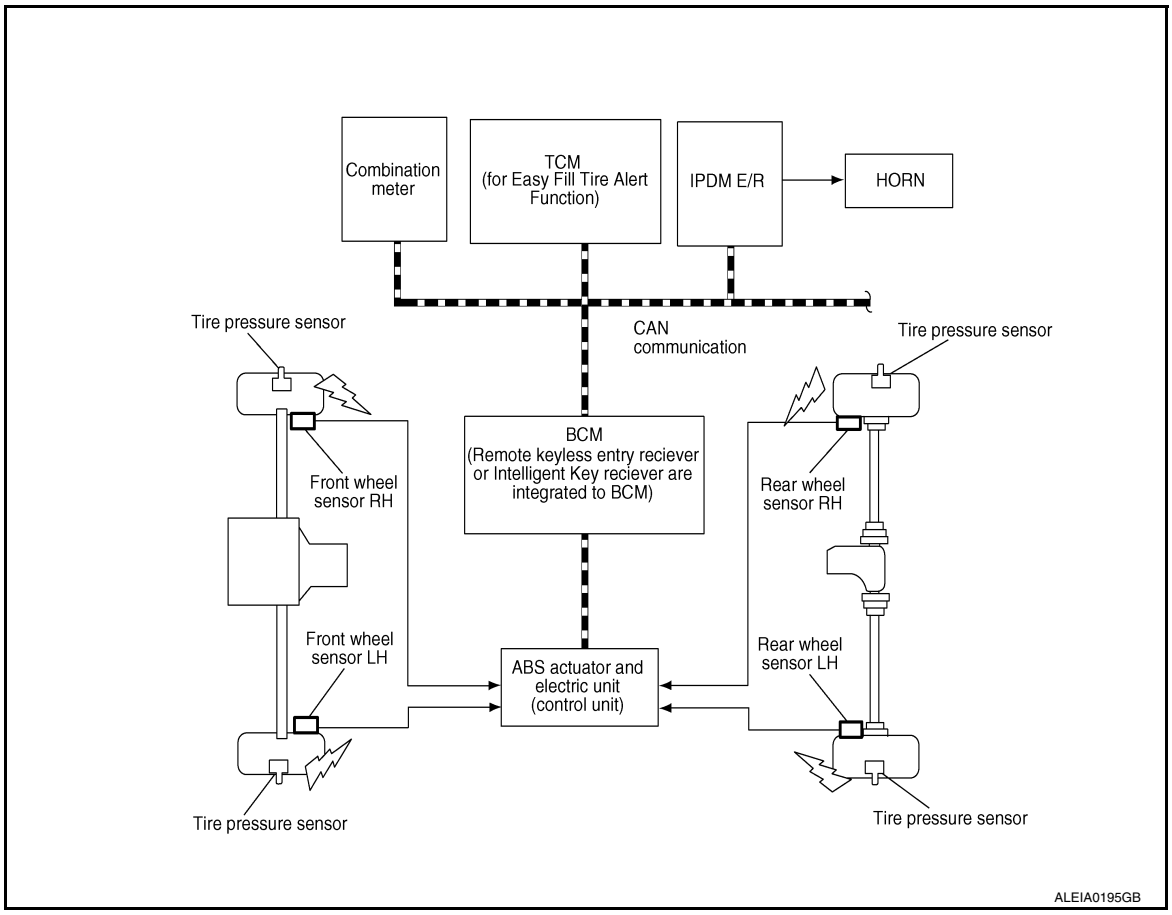
SYSTEM

System Description

INFOID:0000000010244242

When the vehicle has reached a speed of 40 km/h (25 MPH) or greater, the BCM receives a signal transmitted from the tire pressure sensors installed in each wheel. If the BCM detects low inflation pressure or a system malfunction, it sends a signal to the combination meter via CAN communication to illuminate the low tire pressure warning lamp.In addition, a warning message will be displayed in the vehicle information display. Refer to the Owner's Manual for additional information.
The tire pressure monitoring system (TPMS) has Easy fill tire alert function to aid in tire inflation. Refer to WT-9, "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
Combination meter	Mainly receives the following signals from BCM via CAN communication. • Low tire pressure warning lamp signal • TPMS malfunction warning lamp signal
ABS actuator and electric unit (control unit)	Mainly transmits the following signals to BCM via CAN communication. • Vehicle speed signal (ABS)
TCM	Mainly transmits the following signals to BCM via CAN communication. • Shift position signal (P range signal)
IPDM E/R	Mainly transmits the following signals to BCM via CAN communication. • Horn reminder signal

LOW TIRE PRESSURE WARNING LAMP INDICATION CONDITION

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

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

HAZARD WARNING LAMP INDICATION CONDITION

The hazard warning lamp blinks under the following conditions.

- When ID registration is completed. Refer to WT-21, "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

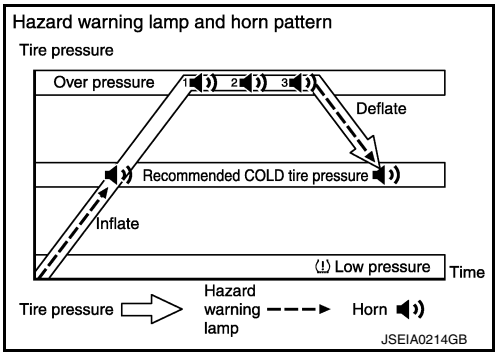
INFOID:0000000010244243

- This function operates only when the select lever position is in P-range with the power switch ON or with the vehicle set to READY.

NOTE:
The easy fill tire alert function is recommended to use with the power 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 (BCM)
WITH INTELLIGENT KEY

WITH INTELLIGENT KEY : CONSULT Function (BCM - COMMON ITEM) INFOID:0000000010262887

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION
BCM can perform the following functions.

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

WITH INTELLIGENT KEY : CONSULT Function (BCM-AIR PRESSURE MONITOR)
INFOID:0000000010262890

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
- Check Intelligent Key relative signal strength
- Confirm vehicle Intelligent Key antenna signal strength

SELF DIAGNOSTIC RESULT

NOTE:
Before performing Self Diagnostic Result, be sure to register the sensor ID or the actual malfunction may be different from that displayed on CONSULT.
Refer to BCS-48, "DTC Index".

DATA MONITOR

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

ACTIVE TEST

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

WORK SUPPORT

Support Item	Description
ID READ	The registered ID number is displayed.
ID REGIST	Refer to WT-21, "Description".

WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010262891

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.

Direct Diagnostic Mode	Description
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK			×	×	×		
Rear window defogger	REAR DEFOGGER			×	×	×		
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT					×		
Exterior lamp	HEADLAMP			×	×			
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×		×			
Interior room lamp battery saver	BATTERY SAVER			×	×			
Back door open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

WITHOUT INTELLIGENT KEY : CONSULT Function (BCM-AIR PRESSURE MONITOR)

INFOID:0000000010262892

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

SELF DIAGNOSTIC RESULT

NOTE:
Before performing Self Diagnostic Result, be sure to register the sensor ID or the actual malfunction may be different from that displayed on CONSULT.
Refer to BCS-108, "DTC Index".

DATA MONITOR

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

ACTIVE TEST

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

WORK SUPPORT

Support Item	Description
ID READ	The registered ID number is displayed.
ID REGIST	Refer to WT-21, "Description".

ECU DIAGNOSIS INFORMATION

BCM

List of ECU Reference

INFOID:0000000009998815

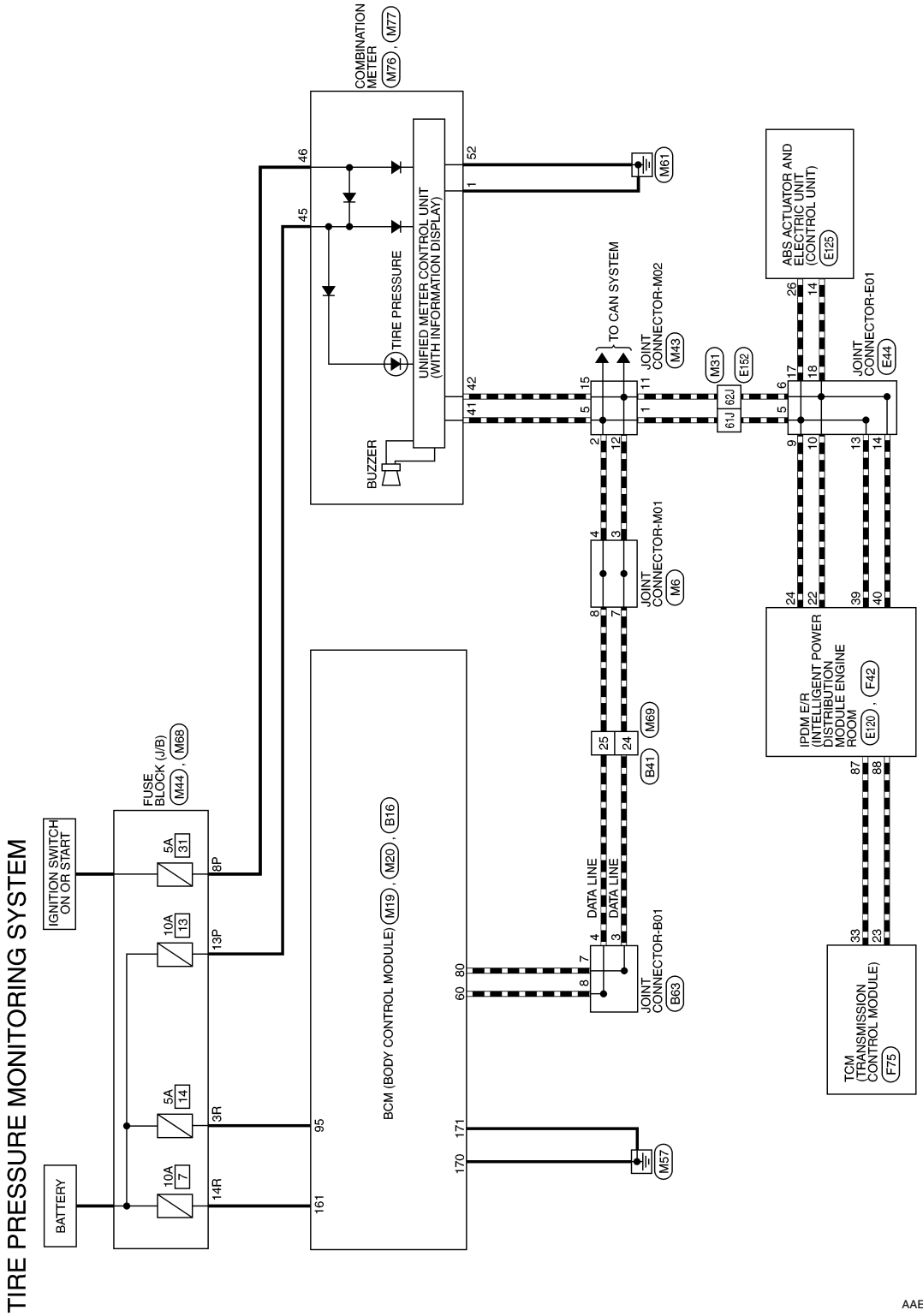
ECU	Reference
BCM (with Intelligent Key system)	BCS-28, "Reference Value"
	BCS-47, "Fail Safe"
	BCS-47, "DTC Inspection Priority Chart"
	BCS-48, "DTC Index"
BCM (without Intelligent Key system)	BCS-96, "Reference Value"
	BCS-107, "Fail Safe"
	BCS-107, "DTC Inspection Priority Chart"
	BCS-108, "DTC Index"

WIRING DIAGRAM

TIRE PRESSURE MONITORING SYSTEM

Wiring Diagram

INFOID:0000000009998816



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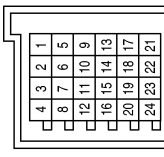
TIRE PRESSURE MONITORING SYSTEM CONNECTORS

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

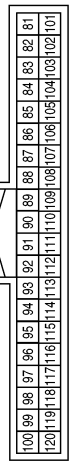
H.S.



Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
95	V	I SHORTING PIN

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU
170	B	I GND1
171	B	I GND2

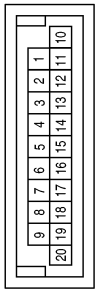
Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
61J	L	–
62J	P	–

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE

H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
5	L	–
11	P	–
12	P	–
15	P	–

AAEIA0122GB

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
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
8P	LA/BR	–
13P	LA/G	–

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
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
3R	V	–
14R	W	–

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	M76
Connector Name	COMBINATION METER
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

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

41	42	43	44	45	46
47	48	49	50	51	52

Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L
45	LA/G	BAT
46	LA/BR	IGN
52	B	G1

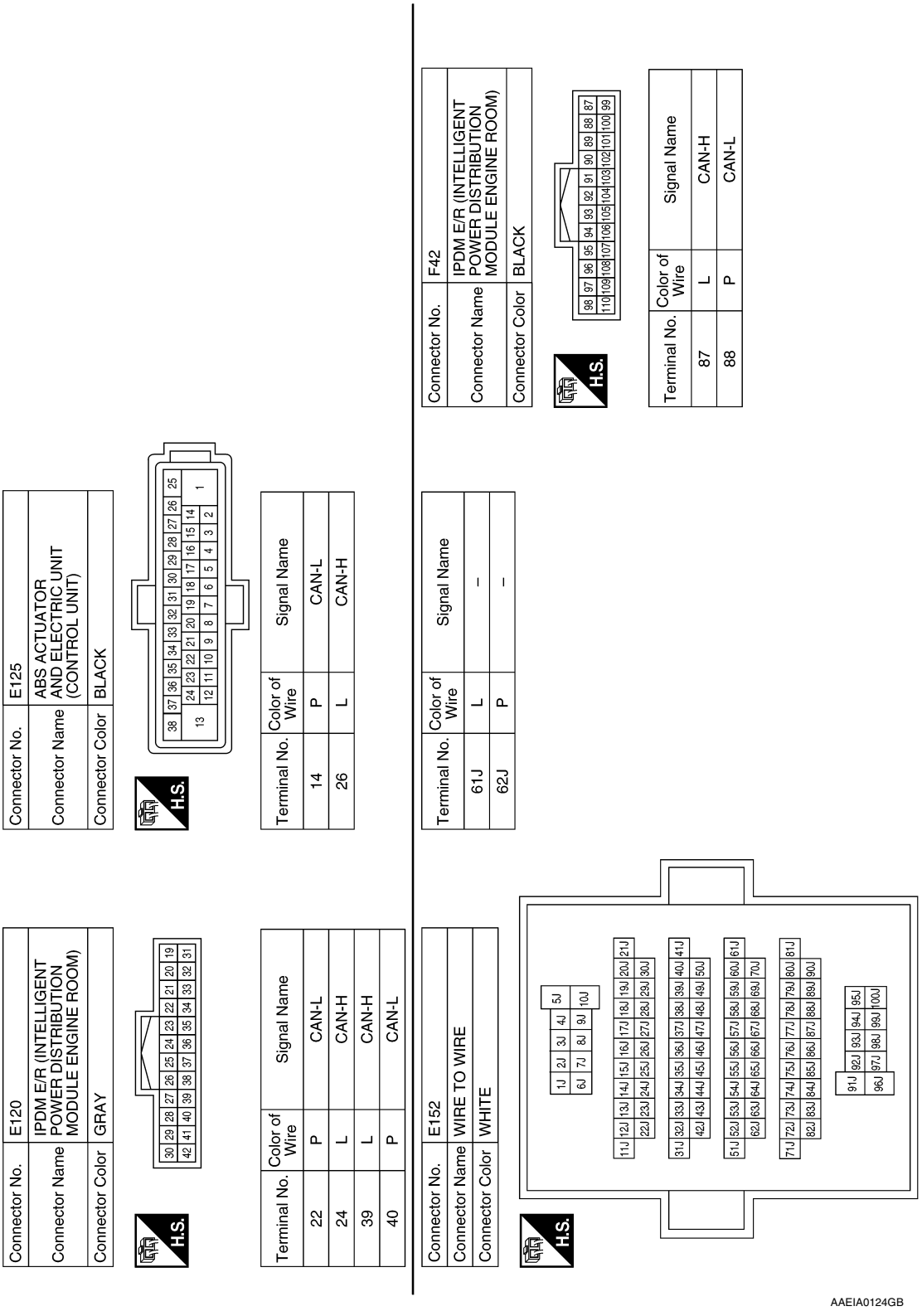
Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Color	WHITE

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
28	27	26	25

Terminal No.	Color of Wire	Signal Name
5	L	–
6	P	–
9	L	–
10	P	–
13	L	–
14	P	–
17	L	–
18	P	–

AAEIA0123GB



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Connector No.	F75
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

H.S.

31	32	33	34	35	36	37	38	39	40	47	48
21	22	23	24	25	26	27	28	29	30	45	46
11	12	13	14	15	16	17	18	19	20	43	44
1	2	3	4	5	6	7	8	9	10	41	42

Terminal No.	Color of Wire	Signal Name
23	P	CAN-L
33	L	CAN-H

Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
60	L	CAN-H
80	P	CAN-L

Connector No.	B41
Connector Name	WIRE TO WIRE
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

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY

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
3	P	–
4	L	–
7	P	–
8	L	–

AAEIA0125GB

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000009998817

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 PRESSURE INSPECTION

Check the tire pressure for all wheels. Refer to WT-65, "Tire Air Pressure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace tire(s) or wheel(s).

3.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 4.

4.PERFORM SELF DIAGNOSTIC RESULT

Perform self diagnostic result. Refer to BCS-26, "AIR PRESSURE MONITOR : CONSULT Function (BCM-AIR PRESSURE MONITOR)" (with Intelligent Key System) or BCS-94, "AIR PRESSURE MONITOR : CONSULT Function (BCM-AIR PRESSURE MONITOR)" (without Intelligent Key System).

Are any DTCs displayed?

YES >> Refer to BCS-48, "DTC Index". If two or more DTCs are displayed, refer to BCS-47, "DTC Inspection Priority Chart".
NO >> GO TO 5.

5.PERFORM DIAGNOSIS APPLICABLE TO THE SYMPTOM

Perform diagnosis applicable to the symptom. Refer to WT-46, "Symptom Table".

>> GO TO 6.

6.FINAL CHECK

Perform self diagnostic result again, and check that the malfunction is repaired. After checking, erase the self diagnosis memory. Refer to BCS-26, "AIR PRESSURE MONITOR : CONSULT Function (BCM-AIR PRESSURE MONITOR)" (with Intelligent Key System) or BCS-94, "AIR PRESSURE MONITOR : CONSULT Function (BCM-AIR PRESSURE MONITOR)" (without Intelligent Key System).

>> Inspection End.

ID REGISTRATION PROCEDURE

Description

INFOID:0000000009998818

This procedure must be performed after replacement of a tire pressure sensor or BCM.

Work Procedure

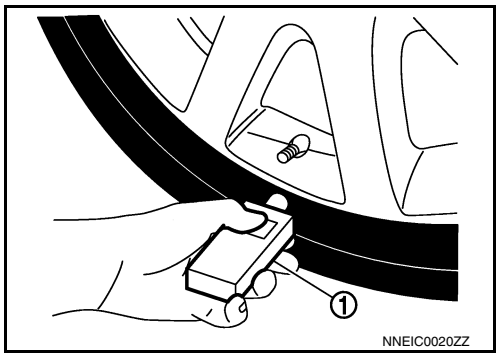
INFOID:0000000009998819

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

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

With CONSULT

1. Turn the ignition switch ON.
2. Using CONSULT, select “AIR PRESSURE MONITOR”“BCM” work support. 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.

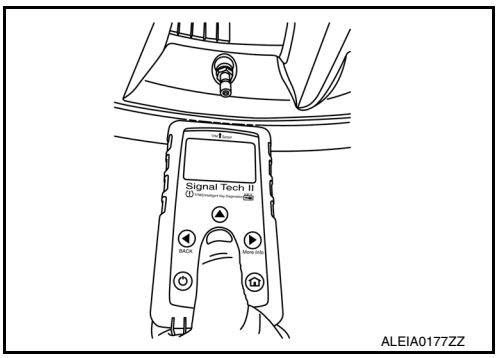
TPMS REGISTRATION WITH SIGNAL TECH II TOOL [- (J-50190)]

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-65, "Tire Air Pressure".
2. Turn the ignition switch ON.
3. Using CONSULT, select “AIR PRESSURE MONITOR” in "BCM" work support. 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.

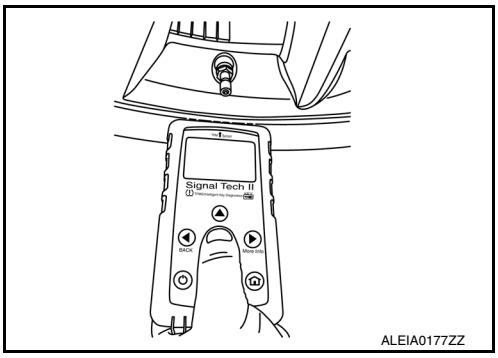


Sequence	ID registration position	Turn signal lamp	CONSULT
1	Front LH	2 blinks	“Yet (red)” ↓ “Done (green)”
2	Front RH		
3	Rear RH		
4	Rear LH		

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-65, "Tire Air Pressure".
2. Turn on the Signal Tech II tool [- (J-50190)] and select “TPMS Check” from the main menu.
3. Select vehicle model and year.
4. When prompted, hold the Signal Tech II against the side of the left front tire, near the valve stem.
5. With the tool held at a 0 to 15 degree angle to the tire, press and release the “OK” button to activate the sensor. Once the sensor is activated, the tool will sound a tone and the tire pressure will be displayed.
6. Repeat steps 4 and 5 for the remaining tires in this order: right front, right rear and left rear.
7. When prompted, connect the tool to the data link connector. The tool will connect to the BCM, read the VIN, read sensor IDs and check for TPMS DTCs. Along with DTCs detected, one of the following will be displayed next to each wheel:



- N/A - Not applicable because no ID found by the tool
- OK - Wheel and sensor are in original position
- NEW - New ID found compared to BCM
- RT - Wheel has been rotated
- Low Press - Low tire pressure

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

TPMS REGISTRATION WITH CONSULT ONLY

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)
Rear RH	200 (2.0, 29)
Rear LH	180 (1.8, 26)

2. Turn the ignition switch ON.
3. Using CONSULT, select “AIR PRESSURE MONITOR” in "BCM" work support. 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-65, "Tire Air Pressure".
8. Test drive the vehicle to ensure that the TPMS lamp is OFF and no warning messages are present.

DTC/CIRCUIT DIAGNOSIS

C1704, C1705, C1706, C1707 LOW TIRE PRESSURE

DTC Logic

INFOID:0000000009998820

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	Display Item	Malfunction Detected Condition	Possible Cause
C1704	LOW PRESSURE FL	Front LH tire pressure drops to 187.5 kPa (26.5 psi) or less.	• Low tire pressure • Tire pressure sensor
C1705	LOW PRESSURE FR	Front RH tire pressure drops to 187.5 kPa (26.5 psi) or less.	
C1706	LOW PRESSURE RR	Rear RH tire pressure drops to 187.5 kPa (26.5 psi) or less.	
C1707	LOW PRESSURE RL	Rear LH tire pressure drops to 187.5 kPa (26.5 psi) or less.	

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Check tire pressure for all wheels and adjust to the specified value. Refer to WT-65, "Tire Air Pressure".
2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
3. Perform Self Diagnostic Result.

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

YES >> Proceed to WT-24, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009998821

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-21, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.
NO >> Replace applicable tire pressure sensor. Refer to WT-61, "Removal and Installation".

2.CHECK TIRE PRESSURE

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

Is the inspection result normal?

YES >> Perform DTC CONFIRMATION PROCEDURE again. Refer to WT-24, "DTC Logic".
NO >> GO TO 3.

3. CHECK TIRE PRESSURE SIGNAL

With CONSULT

1. Adjust tire pressure for all wheels to the specified value. Refer to WT-65, "Tire Air Pressure".
2. Select “AIR PRESSURE MONITOR” of “BCM” Data 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 TRANSMITTER (NO DATA)

DTC Logic

INFOID:0000000009998822

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	Display Item	Malfunction Detected Condition	Possible Cause
C1708	[NO - DATA] - FL	Data signal from the front LH wheel sensor cannot be detected.	• Driving in area with radio interference. • ID registration incomplete • Tire pressure sensor • Harness or connectors • BCM
C1709	[NO - DATA] - FR	Data signal from the front RH wheel sensor cannot be detected.	
C1710	[NO - DATA] - RR	Data signal from the rear RH wheel sensor cannot be detected.	
C1711	[NO - DATA] - RL	Data signal from the rear LH wheel sensor cannot be detected.	

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Perform tire pressure sensor ID registration. Refer to WT-21, "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. Perform Self Diagnostic Result.

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

YES >> Proceed to WT-26, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009998823

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-15, "Wiring Diagram".

1.CHECK TIRE PRESSURE SIGNAL

With CONSULT
1. Select “AIR PRESSURE MONITOR” from “BCM” Data 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-65, "Tire Air Pressure".
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-61, "Removal and Installation".

2.CHECK BCM POWER CIRCUIT

Check voltage between BCM connector M20 terminal 161 and ground.

BCM		Ground	Voltage (Approx.)
Connector	Terminal		
M20	161	—	Battery voltage

Is the inspection result normal?

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

3.CHECK BCM GROUND CIRCUIT

Check continuity between BCM connector M20 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M20	170	—	Yes
	171		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4.TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-21, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 5.
NO >> Replace applicable tire pressure sensor. Refer to WT-61, "Removal and Installation".

5.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 “AIR PRESSURE MONITOR” from “BCM” Data 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-65, "Tire Air Pressure".
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 BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).

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

DTC Logic

INFOID:0000000009998826

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	Display Item	Malfunction Detection Condition	Possible Cause
C1716	[PRESSDATA ERR] FL	Malfunction in the tire pressure data from the front LH wheel tire pressure sensor.	• Excessive tire pressure • ID registration incomplete • Tire pressure sensor • BCM
C1717	[PRESSDATA ERR] FR	Malfunction in the tire pressure data from the front RH wheel tire pressure sensor.	
C1718	[PRESSDATA ERR] RR	Malfunction in the tire pressure data from the rear RH wheel tire pressure sensor.	
C1719	[PRESSDATA ERR] RL	Malfunction in the tire pressure data from the rear LH wheel tire pressure sensor.	

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
1. Check tire pressure for all wheels and adjust to the specified value. Refer to WT-65, "Tire Air Pressure".
2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
3. Perform Self Diagnostic Result.

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

YES >> Proceed to WT-29, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009998827

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-21, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.
NO >> Replace applicable tire pressure sensor. Refer to WT-61, "Removal and Installation".

2.CHECK TIRE PRESSURE SIGNAL

With CONSULT
1. Adjust tire pressure for all wheels to the specified value. Refer to WT-65, "Tire Air Pressure".
2. Select “AIR PRESSURE MONITOR” from “BCM”.
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-65, "Tire Air Pressure".
AIR PRESS FR	
AIR PRESS RR	
AIR PRESS RL	

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).

C1729 VEHICLE SPEED SIGNAL

DTC Logic

INFOID:0000000009998832

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	Display Item	Malfunction Detected Condition	Possible Cause
C1729	VHCL SPEED SIG ERR	Vehicle speed signal not detected.	• CAN communication • BCM • Combination meter

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC C1729 detected?

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

Diagnosis Procedure

INFOID:0000000009998833

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 COMBINATION METER

With CONSULT
Perform Self Diagnostic Result for METER M&A. Refer to MWI-21, "CONSULT Function (METER/M&A)".

Are any DTCs detected?

YES >> Refer to BCS-48, "DTC Index" (with Intelligent Key System) or BCS-108, "DTC Index" (without Intelligent Key System).
NO >> Replace the BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).

C1730, C1731, C1732, C1733 FLAT TIRE

DTC Logic

INFOID:0000000009998834

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	Display Item	Malfunction Detected Condition	Possible Cause
C1730	FLAT TIRE FL	Front LH tire pressure is 70 kPa (0.7 kg/cm^2, 10 psi) or less.	• Low tire pressure • Tire pressure sensor
C1731	FLAT TIRE FR	Front RH tire pressure is 70 kPa (0.7 kg/cm^2, 10 psi) or less.	
C1732	FLAT TIRE RR	Rear RH tire pressure is 70 kPa (0.7 kg/cm^2, 10 psi) or less.	
C1733	FLAT TIRE RL	Rear LH tire pressure is 70 kPa (0.7 kg/cm^2, 10 psi) or less.	

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

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

YES >> Proceed to WT-32, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009998835

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-21, "Work Procedure".

Can the tire pressure sensor ID registration be completed?

YES >> GO TO 2.
NO >> Replace applicable tire pressure sensor. Refer to WT-61, "Removal and Installation".

2.CHECK TIRE PRESSURE

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

Is the inspection result normal?

YES >> Perform DTC CONFIRMATION PROCEDURE again. Refer to WT-32, "DTC Logic".
NO >> GO TO 3.

3. CHECK TIRE PRESSURE SIGNAL

With CONSULT

1. Adjust tire pressure for all wheels to the specified value. Refer to WT-65, "Tire Air Pressure".
2. Select “AIR PRESSURE MONITOR” from “BCM” Data 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 BCM

DTC Logic

INFOID:0000000009998836

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	Display Item	Malfunction Detected Condition	Possible Cause
C1734	CONTROL UNIT	TPMS malfunction in BCM.	BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
Perform Self Diagnostic Result.

Is DTC C1734 detected?

YES >> Proceed to WT-34, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009998837

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-15, "Wiring Diagram".

1.CHECK BCM HARNESS CONNECTORS

Check BCM harness connectors for damage or loose connections.

Is the inspection result normal?

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

2.CHECK BCM POWER SUPPLY AND GROUND

Check BCM power supply and ground. Refer to BCS-68, "Diagnosis Procedure" (with Intelligent Key System) or BCS-128, "Diagnosis Procedure" (without Intelligent Key System).

Is the inspection result normal?

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

3.CHECK BCM INPUT/OUTPUT SIGNALS

Check BCM input/output signals. Refer to BCS-28, "Reference Value" (with Intelligent Key System) or BCS-96, "Reference Value" (without Intelligent Key System).

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).

C1735 IGNITION SIGNAL

DTC Logic

INFOID:0000000009998838

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	Display Item	Malfunction Detected Condition	Possible Cause
C1735	IGNITION SIGNAL LINE - BCM/ TPMS	BCM has detected a mismatch between IGN ON signals.	BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT
Perform Self Diagnostic Result.

Is DTC C1735 detected?

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

Diagnosis Procedure

INFOID:0000000009998839

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 CAN IGNITION SIGNAL

With CONSULT
1. Select “INTELLIGENT KEY” from “BCM” Data Monitor.
2. Check IGN RLY1-F/B value.

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

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check CAN system. Refer to LAN-17, "Trouble Diagnosis Flow Chart".

2.CHECK BCM POWER SUPPLY AND GROUND

Check BCM power supply and ground. Refer to BCS-68, "Diagnosis Procedure" (with Intelligent Key System) or BCS-128, "Diagnosis Procedure" (without Intelligent Key System).

Is the inspection result normal?

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

3.DRIVE VEHICLE

Clear DTC and test drive vehicle to check for low tire pressure warning lamp.

Does the vehicle operate without any low tire pressure warning lamp?

YES >> Inspection End.
NO >> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).

C1765, C1766, C1767, C1768 TIRE PRESSURE SENSOR

DTC Description

INFOID:0000000010206016

DTC DETECTION LOGIC

DTC	Display Item	Malfunction Detected Condition	Possible Cause
C1765	WHEEL TOP DATA FL (Wheel top data front left)	Malfunction in the wheel top data from the front LH wheel speed sensor.	Wheel speed sensor
C1766	WHEEL TOP DATA FR (Wheel top data front right)	Malfunction in the wheel top data from the front RH wheel speed sensor.	
C1767	WHEEL TOP DATA RR (Wheel top data rear right)	Malfunction in the wheel top data from the rear RH wheel speed sensor.	
C1768	WHEEL TOP DATA RL (Wheel top data rear left)	Malfunction in the wheel top data from the rear LH wheel speed sensor.	

Diagnosis Procedure

INFOID:0000000010206017

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:0000000010206018

This procedure must be performed:
- After replacement of BCM.

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition
C1769	CONFIG SETTING (Configuration setting)	Tire air pressure monitoring system configuration cannot be performed.
		Receiver ID registration cannot be performed.

Diagnosis Procedure

INFOID:0000000010206019

1.TIRE PRESSURE MONITORING SYSTEM CONFIGURATION

Perform configuration.

>> Refer to WT-21, "Work Procedure", and GO TO 2.

2.TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-21, "Work Procedure".

Does low tire pressure warning lamp turn OFF?

YES >> Inspection End.
NO >> Configuration setting tire pressure monitoring system. Refer to WT-21, "Work Procedure".

C1770, C1771, C1772, C1773 G SENSOR

DTC Description

INFOID:0000000010290341

DTC DETECTION LOGIC

DTC	Display Item	Malfunction Detected Condition	Possible Causes
C1770	G SENSOR FL (G sensor front left)	Malfunction in the G sensor data from front left wheel sensor.	• Tire pressure sensor • Tire pressure receiver
C1771	G SENSOR FR (G sensor front right)	Malfunction in the G sensor data from front right wheel sensor.	
C1772	G SENSOR RL (G sensor rear left)	Malfunction in the G sensor data from rear left wheel sensor.	
C1773	G SENSOR RR (G sensor rear right)	Malfunction in the G sensor data from rear right wheel sensor.	

Diagnosis Procedure

INFOID:0000000010290342

1.REPLACE WHEEL SENSOR

When DTC "C1770, C1771, C1772, C1773" is detected, replace wheel sensor.

>> Replace wheel sensor. Refer to BRC-132, "FRONT WHEEL SENSOR : Removal and Installation" (front wheel sensor), BRC-134, "REAR WHEEL SENSOR : Removal and Installation" (rear wheel sensor).

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000010206022

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 Logic

INFOID:0000000010206023

DTC DETECTION LOGIC

DTC	Display item	Malfunction detected condition	Possible cause
U1000	CAN COMM CIRCUIT	Low tire pressure warning control unit is not communicating CAN communication signal for 2 seconds or more.	• 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. Perform “self-diagnosis” for “AIR PRESSURE MONITOR”.

Is DTC “U1000” detected?

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

Diagnosis Procedure

INFOID:0000000010206024

Proceed to LAN-30, "CAN COMMUNICATION SYSTEM : CAN System Specification Chart".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000010206025

DTC DETECTION LOGIC

DTC	Display Item	Malfunction Detected Condition	Possible cause
U1010	CONTROL UNIT (CAN)	BCM detected internal CAN communication circuit malfunction.	BCM

Diagnosis Procedure

INFOID:0000000010206026

1.REPLACE BCM

When DTC “U1010” is detected, replace BCM.

>> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).

LOW TIRE PRESSURE WARNING LAMP

Component Function Check

INFOID:0000000010269532

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-43, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000010269533

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT

1. Turn the ignition switch ON.
2. Perform “SELF DIAGNOSTIC RESULT”.

Are any DTCs detected?

YES >> Refer to BCS-48, "DTC Index" (with Intelligent Key System) or BCS-108, "DTC Index" (without Intelligent Key System).
NO >> GO TO 2.

2.CHECK LOW TIRE PRESSURE WARNING LAMP SIGNAL

With CONSULT

1. Turn the ignition switch ON.
2. On “DATA MONITOR” select “WARNING LAMP.”
3. 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 >> Check the combination meter. Refer to MWI-21, "CONSULT Function (METER/M&A)".
NO >> Replace the BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).

POWER SUPPLY AND GROUND CIRCUIT
WITH INTELLIGENT KEY SYSTEM

WITH INTELLIGENT KEY SYSTEM : Diagnosis Procedure

INFOID:0000000010269542

Regarding Wiring Diagram information, refer to BCS-50, "Wiring Diagram".

1. CHECK FUSE

Check that the following fuse is not blown.

Terminal No.	Signal name	Fuse No.
161	BCM power supply	7 (10A)

Is the fuse blown?

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

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M20.
2. Check voltage between BCM connector M20 and ground.

BCM		Ground	Voltage (Approx.)
Connector	Terminal		
M20	161	—	Battery voltage

Is the inspection result normal?

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M20	170	—	Yes
	171		

Is the inspection result normal?

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

WITHOUT INTELLIGENT KEY SYSTEM

WITHOUT INTELLIGENT KEY SYSTEM : Diagnosis Procedure

INFOID:0000000010269543

Regarding Wiring Diagram information, refer to BCS-110, "Wiring Diagram".

1. CHECK FUSE

Check that the following fuse is not blown.

Terminal No.	Signal name	Fuse No.
161	BCM power supply	7 (10A)

Is the fuse blown?

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

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M20.
2. Check voltage between BCM connector M20 and ground.

BCM		Ground	Voltage (Approx.)
Connector	Terminal		
M20	161	—	Battery voltage

Is the inspection result normal?

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M20	170	—	Yes
	171		

Is the inspection result normal?

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

SYMPTOM DIAGNOSIS

TPMS

Symptom Table

INFOID:0000000010215022

LOW TIRE PRESSURE WARNING LAMP SYMPTOM CHART

Diagnosis items	Symptom (Power 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 repeats blinking ON for 2 seconds and OFF for 0.2 seconds.	 Blinks: ON 2 sec > OFF 0.2 sec SEIA0593E	Wake-up operation for all tire pressure sensors at wheels is not completed.	Perform the ID registration for all tire pressure sensors at wheels. Refer to WT-21, "Work Procedure".
	The low tire pressure warning lamp blinks once.	 Blinks 1 time ON 0.3 sec > OFF 1.0 sec JPEIC0090GB	The front left tire pressure sensor is not activated.	Perform the ID registration for the tire pressure sensor at front left wheel. Refer to WT-21, "Work Procedure".
	The low tire pressure warning lamp repeats blinking twice.	 Blinks 2 times ON 0.3 sec > OFF 0.3 sec SEIA0595E	The front right tire pressure sensor is not activated.	Perform the ID registration for the tire pressure sensor at front right wheel. Refer to WT-21, "Work Procedure".
	The low tire pressure warning lamp repeats blinking for 3 times.	 Blinks 3 times ON 0.3 sec > OFF 0.3 sec SEIA0596E	The rear right tire pressure sensor is not activated.	Perform the ID registration for the tire pressure sensor at rear right wheel. Refer to WT-21, "Work Procedure".
	The low tire pressure warning lamp repeats blinking for 4 times.	 Blinks 4 times ON 0.3 sec > OFF 0.3 sec SEIA0597E	The rear left tire pressure sensor is not activated.	Perform the ID registration for the tire pressure sensor at rear left wheel. Refer to WT-21, "Work Procedure".
	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-65, "Tire Air Pressure".

Diagnosis items	Symptom (Power 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 combination meter fuse is open or removed (or pulled out).	Check and install the combination meter fuse. If necessary, replace the fuse.
			The BCM harness connector is removed.	Check the connection conditions of the BCM harness connector, and repair if necessary.
			Tire Pressure Monitoring System (TPMS) malfunction.	• Perform CONSULT self-diagnosis. Refer to BCS-26, "AIR PRESSURE MONITOR : CONSULT Function (BCM-AIR PRESSURE MONITOR)"(with Intelligent Key System) or BCS-94, "AIR PRESSURE MONITOR : CONSULT Function (BCM-AIR PRESSURE MONITOR)" (without Intelligent Key System). • If necessary, perform tire pressure sensor ID registration. Refer to WT-21, "Work Procedure".

NOTE:
If tire pressure sensor wake-up operation is not completed for two or more tire pressure sensors, the applicable low tire pressure warning lamp blinking patterns are displayed continuously.
(Example: Blinks once/OFF/blinks 3 times = Wake-up operation is not completed at the front left wheel and rear right wheel tire pressure sensors.)

LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON

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

INFOID:0000000009998841

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

With CONSULT
Perform Self Diagnostic Result.

Is DTC U1000 detected?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> GO TO 2.

2. CHECK COMBINATION METER

Check combination meter operation. Refer to MWI-21, "CONSULT Function (METER/M&A)".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace combination meter. Refer to MWI-82, "Removal and Installation".

3. CHECK LOW TIRE PRESSURE WARNING LAMP

Disconnect BCM harness connector.

Does the low tire pressure warning lamp activate?

YES >> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).
NO >> Check combination meter operation.

LOW TIRE PRESSURE WARNING LAMP STAYS ON

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

INFOID:0000000009998842

1.CHECK BCM CONNECTORS

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

Is the inspection result normal?

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

2.BCM POWER SUPPLY AND GROUND CIRCUITS

Check BCM power supply and ground circuits. Refer to BCS-68, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).
NO >> Repair BCM circuits.

LOW TIRE PRESSURE WARNING LAMP BLINKS

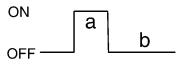
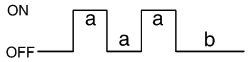
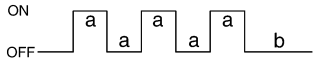
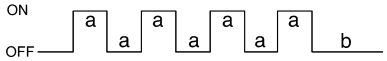
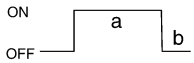
Description

INFOID:0000000010215016

The low tire pressure warning lamp blinks when the power switch is turned ON.

NOTE:

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

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

JPEIC0089GB

Diagnosis Procedure

INFOID:0000000010215017

1. TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration. Refer to WT-21, "Work Procedure".

Is tire pressure sensor ID registration completed?

YES >> Inspection End.

NO >> Perform the “self-diagnosis” for “AIR PRESSURE MONITOR” of “BCM”. Refer to BCS-48, "DTC Index".

ID REGISTRATION CANNOT BE COMPLETED

Description

INFOID:0000000010215018

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:0000000010215019

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-21, "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-61, "Removal and Installation".
All wheels do not react.>>Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).

EASY FILL TIRE ALERT DOES NOT ACTIVATE

Description

INFOID:0000000010215020

The easy fill tire alert does not function while inflating a tire when the select lever position is in P-range with the power switch ON or with the vehicle set to READY.

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-9, "Easy Fill Tire Alert Function".

Diagnosis Procedure

INFOID:0000000010215021

1. LOCATION CHANGE

Move the vehicle to other area and repeat the procedure of the easy fill tire alert function. Refer to WT-9, "Easy Fill Tire Alert Function".

Is the function normal?

YES >> Normal (the easy fill tire alert may not operate, depending on reception condition.)
NO >> GO TO 2.

2. PERFORM BCM SELF-DIAGNOSIS

With CONSULT

Perform “self-diagnosis” for “AIR PRESSURE MONITOR” of “BCM”.

Is any DTC detected?

YES >> Perform diagnosis for detected DTC. Refer to BCS-48, "DTC Index".
NO >> GO TO 3.

3. CHECK HAZARD WARNING LAMP OPERATION

Check hazard warning lamp operation with hazard switch.

Does the hazard warning lamp blink?

YES >> GO TO 4.
NO >> Perform diagnosis for the hazard warning lamp. Refer to EXL-55, "Wiring Diagram".

4. PERFORM ELECTRIC SHIFT CONTROL MODULE SELF-DIAGNOSIS

With CONSULT

Perform “self-diagnosis” for “SHIFT”.

Is any DTC detected?

YES >> Perform diagnosis for detected DTC. Refer to BCS-48, "DTC Index".
NO >> GO TO 5.

5. CHECK HORN OPERATION

Check horn operation. Refer to HRN-3, "Wiring Diagram".

Is the operation normal?

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

6. PERFORM SELF-DIAGNOSIS

With CONSULT

1. Drive for 10 minutes at a speed of 40 km/h (25 MPH) or more.
   CAUTION:
   Total time driving at a speed of 40 km/h (25 MPH) or more must be 10 minutes.
2. Stop the vehicle.
3. Perform “self-diagnosis” for “AIR PRESSURE MONITOR” of “BCM”.

Is any DTC detected?

YES >> Perform diagnosis for detected DTC. Refer to BCS-48, "DTC Index".

NO >> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key System) or BCS-135, "Removal and Installation" (without Intelligent Key System).

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:0000000009998845

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

		Reference page	WT-60	WT-56	WT-57	WT-65	FSU-8	—	—	WT-65	DLN-97	DLN-110	FAX-6, or FSU-5	RAX-5 or RAX-13	—	—	FAX-6 or FAX-55.	BR-6	ST-6
		Possible cause and SUSPECTED PARTS	Improper installation, looseness	Out-of-round	Imbalance	Incorrect tire pressure	Uneven tire wear	Deformation or damage	Non-uniformity	Incorrect tire size	PROPELLER SHAFT (if equipped)	DIFFERENTIAL (if equipped)	FRONT AXLE AND FRONT SUSPENSION	REAR AXLE AND REAR SUSPENSION	TIRE	WHEEL	DRIVE SHAFT	BRAKE	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

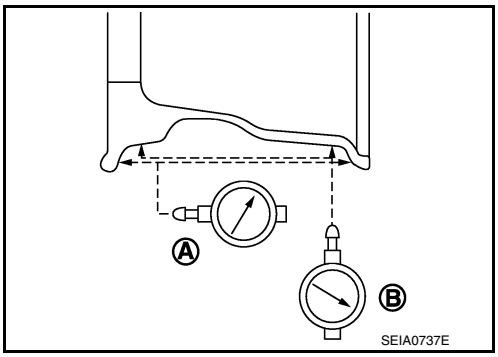
Inspection

INFOID:0000000010244235

WHEEL

1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.

a. Remove tire from wheel and mount wheel on a balancer machine.
b. Set dial indicator as shown.
c. Check runout, if runout value exceeds the limit, replace wheel.



Limit	
Axial Runout (A)	**Refer to WT-65, "Wheel".**
Radial Runout (B)	**Refer to WT-65, "Wheel".**

WHEEL AND TIRE

Adjustment

INFOID:0000000010244236

BALANCING WHEELS (ADHESIVE WEIGHT TYPE)

Preparation Before Adjustment

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

CAUTION:

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

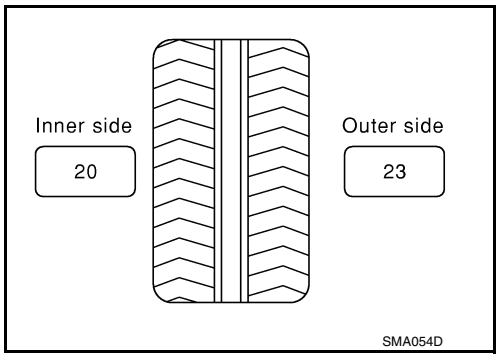
Wheel Balance Adjustment

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 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.

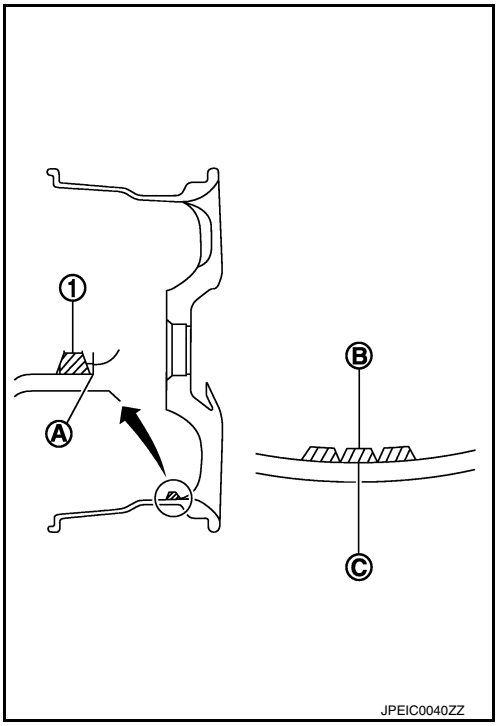
1. Set wheel and tire on balancer machine using the center hole as a guide. Start the balancer machine.
2. For balancer machines that only have a clip-on (rim flange) weight mode setting, follow this step to calculate the correct size adhesive weight to use. When inner and outer imbalance values are 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)

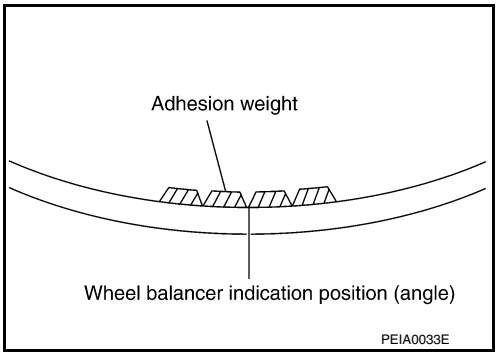


3. Install balance weight in the position shown.
   CAUTION:
   - **Do not install the inner balance weight before installing the outer balance weight.**
   - **Before installing the balance weight, be sure to clean the mating surface of the wheel and tire.**
   - When installing balance weight (1) to 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 of 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.

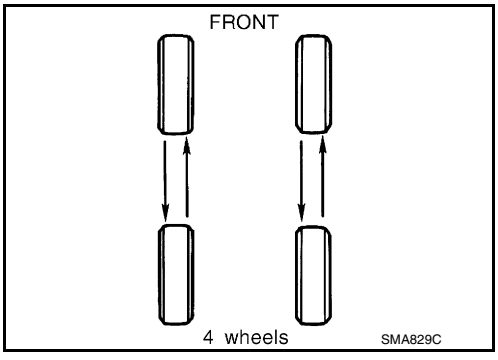
Wheel balance	Dynamic (At flange)	Static (At flange)
Maximum allowable imbalance	Refer to WT-65, "Wheel".	

TIRE ROTATION

- Follow the maintenance schedule for tire rotation service intervals. Refer to MA-7, "Introduction of Periodic Maintenance".
- Rotate the wheels and tires front to back in the pattern as shown.
- When installing the wheel, tighten wheel nuts to the specified torque.MA-7, "Introduction of Periodic Maintenance"

  WARNING:
  - **Do not include the spare tire (if equipped) when rotating tires.**
  - **After rotating tires, check and adjust the tire pressure.**

  CAUTION:
  - **When installing wheel nuts, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.**
  - **Be careful not to tighten the wheel nuts to a torque exceeding specification to prevent strain on the disc brake rotor.**
  - **Use Genuine NISSAN wheel nuts.**



Wheel nut tightening torque : **WT-65, "Wheel"**

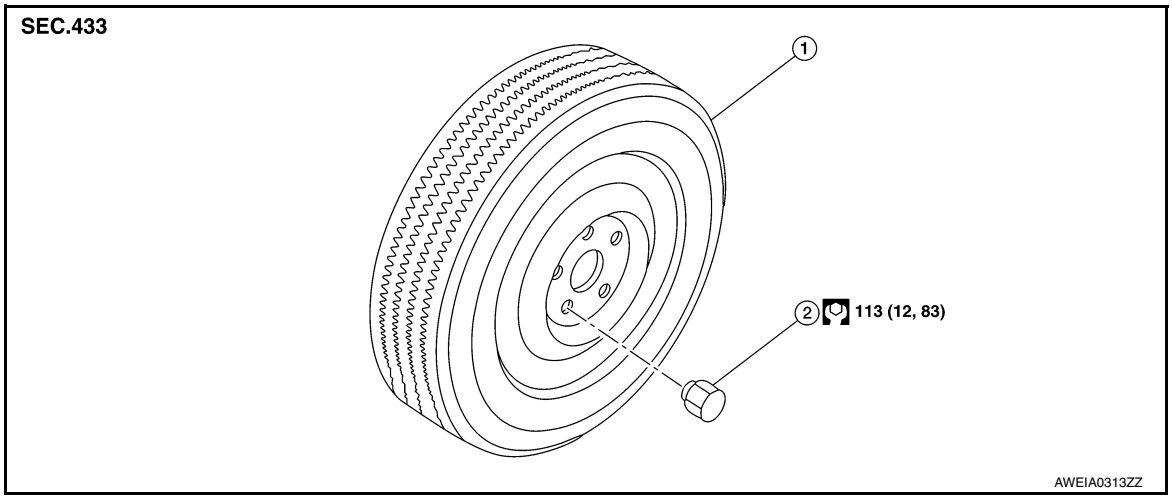
- Perform the ID registration after tire rotation. Refer to WT-21, "Work Procedure".

REMOVAL AND INSTALLATION

WHEEL AND TIRE

Exploded View

INFOID:0000000010244248



1. Wheel and tire
2. Wheel nut

Removal and Installation

INFOID:0000000010244249

REMOVAL

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

INSTALLATION

Installation is in the reverse order of removal.

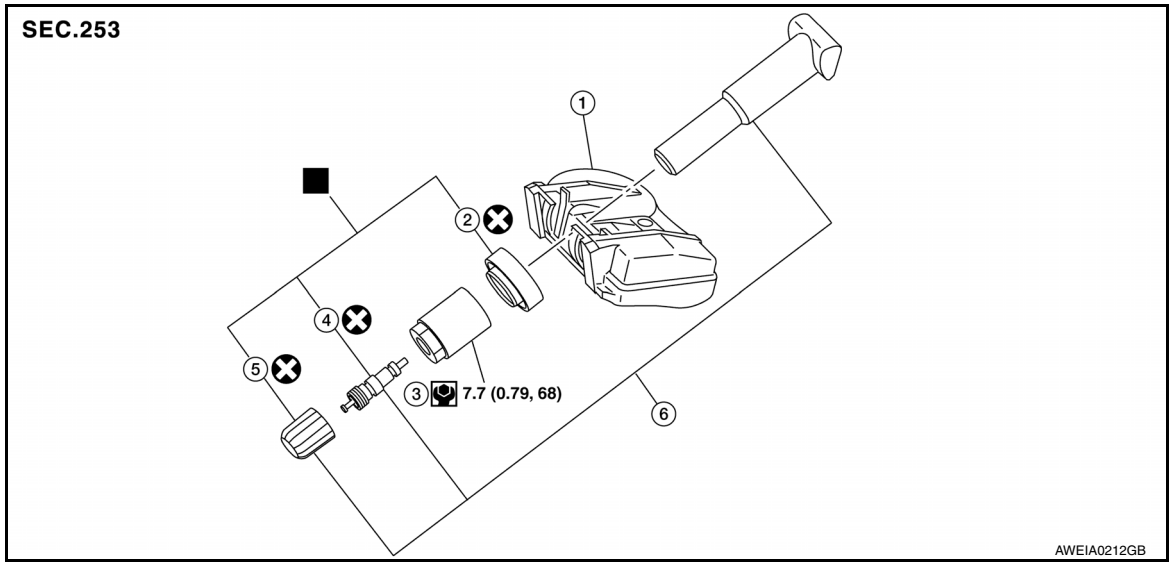
CAUTION:

- **When installing wheel nuts, tighten them diagonally by dividing the work two or three times in order to prevent the wheels from developing any distortion.**
- **Be careful not to tighten the wheel nuts to a torque exceeding specification to prevent strain on the disc brake rotor.**
- **Use Genuine NISSAN wheel nuts.**

TIRE PRESSURE SENSOR

Exploded View

INFOID:0000000010244259



1. Tire pressure sensor
2. O-ring
3. Valve stem nut
4. Valve core
5. Valve cap
6. Valve stem assembly

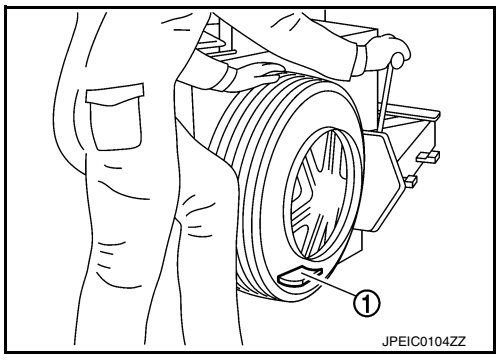
■: Parts that are replaced as a set when the tire is replaced.

Removal and Installation

INFOID:0000000010244260

REMOVAL

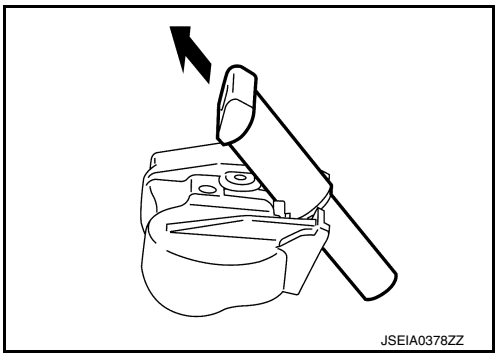
1. Remove wheel and tire using power tool.
2. Remove valve cap and valve core to deflate the tire.
   NOTE:
   If the tire is to be reused, apply a matching mark on the tire in line with the position of the valve stem assembly for the purpose of wheel and tire balance adjustment after installation.
3. 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. Reach inside the tire and remove the tire pressure sensor.
   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.**
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.**

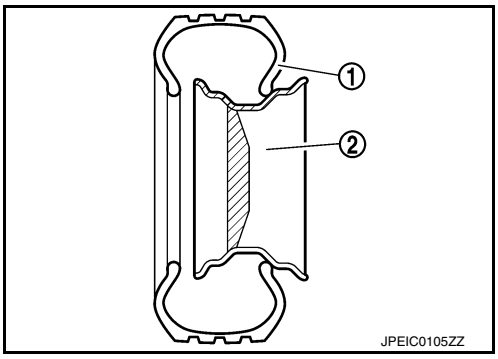
- **Be sure not to damage the wheel.**

6. Remove the valve stem from the tire pressure sensor as shown.

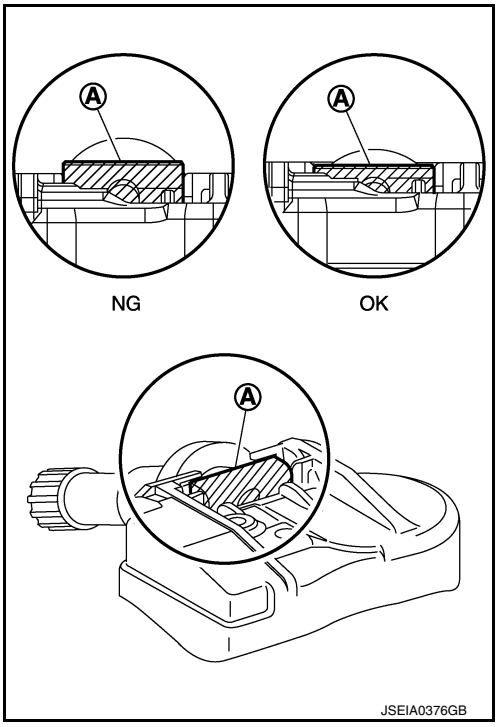


INSTALLATION

1. Apply a suitable non-silicone lubricant to the tire inside bead.
   CAUTION:
   - **Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.**
   - **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.

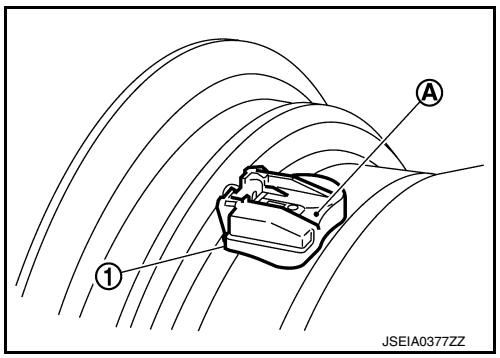


3. Install the valve stem to the tire pressure sensor.
4. Install the O-ring to the tire pressure sensor.
   CAUTION:
   - **Do not reuse O-ring**
   - **Insert O-ring to the base of the tire pressure sensor.**
   - **The base of the valve stem (A) must be positioned in the groove of the metal plate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



5. Install tire pressure sensor (1) to wheel while pressing at position (A).

CAUTION:
- **Check that O-ring contacts horizontally with wheel.**
- **Check that the base of the valve stem is positioned in the groove of the metal plate.**
- **Be sure that no burrs exist in the valve stem hole of the wheel.**



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

Valve stem nut tightening torque : WT-61, "Exploded View"

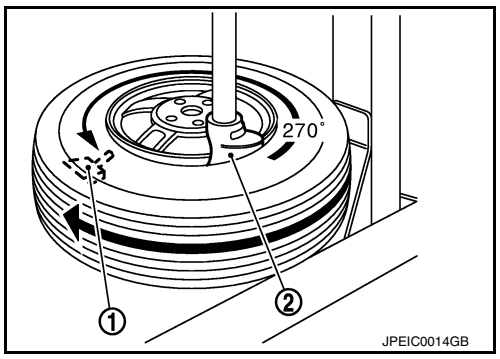
CAUTION:
Do not use power tool for installation.

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

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

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

CAUTION:
- **Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.**
- **Do not allow lubricant to make contact with tire pressure sensor.**



9. Install the tire outside bead onto the wheel as normal.

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.

10. Install the valve core and inflate tire.

CAUTION:
Do not reuse valve core.

11. Install the valve cap.

CAUTION:
Do not reuse valve cap.

12. Balance the wheel and tire. Refer to WT-57, "Adjustment".
13. Install wheel and tire in appropriate wheel position on vehicle. Refer to WT-60, "Removal and Installation".

NOTE:
If replacing the tire pressure sensor, then tire pressure sensor wake up operation must be performed. Refer to WT-21, "Work Procedure".

14. Adjust neutral position of steering angle sensor. Refer to BRC-70, "Work Procedure".
15. Perform the ID registration procedure. Refer to WT-21, "Work Procedure".

REMOTE KEYLESS ENTRY RECEIVER

Removal and Installation

INFOID:0000000010244269

The Remote Keyless Entry Reciever is an integral part of the BCM (BODY CONTROL MODULE). Refer to BCS-75, "Removal and Installation" (WITH INTELLIGENT KEY SYSTEM) or BCS-135, "Removal and Installation"(WITHOUT INTELLIGENT KEY SYSTEM).

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel

INFOID:0000000010244270

ALUMINUM WHEEL

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

STEEL WHEEL

Runout	Axial runout	Less than 0.8 mm (0.031 in)
	Radial runout	Less than 0.5 mm (0.020 in)
Allowable imbalance	Dynamic (At flange)	Less than 5 g (0.17 oz) (one side)
	Static (At flange)	Less than 10 g (0.35 oz)

Tire Air Pressure

INFOID:0000000010244271

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

Tire position	Size	Cold tire pressure
Front	P225/65R17 102H	230 (2.35, 33)
	P225/65RF17 100H	
	P225/60R18 100H	
Rear	P225/65R17 102H	230 (2.35, 33)
	P225/65RF17 100H	
	P225/60R18 100H	
Spare (if equipped)	T145/90D16 106M	420 (4.28, 60)
	T155/90D17 101M	