SECTION WT
ROAD WHEELS & TIRES

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009479080

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:0000000009443152

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-22, "Work Procedure".
- ID registration is required when replacing or rotating wheels, replacing tire pressure sensor or BCM. Refer to WT-22, "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-46, "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:0000000009443153

- 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.

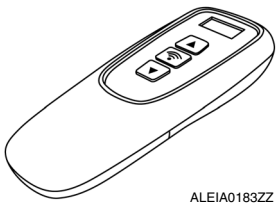
PREPARATION

PREPARATION

Special Service Tool

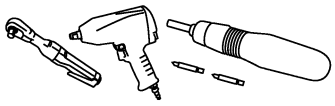
INFOID:0000000009479148

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

Tool number (Kent-Moore No.) Tool name	Description
— (J-45295-A) Transmitter activation tool  ALEIA0183ZZ	• Activate TPMS transmitter IDs
— (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

Commercial Service Tool

INFOID:0000000009443155

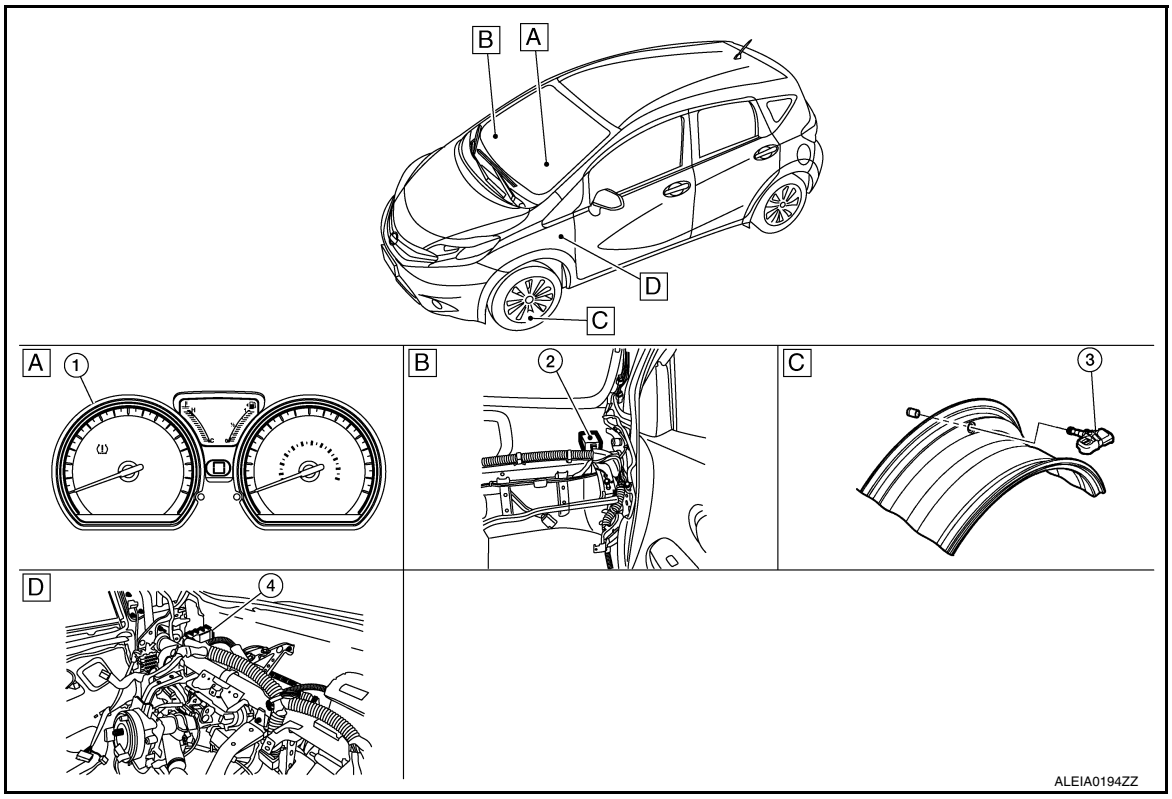
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009443156



A. Combination meter
B. View with instrument panel removed
C. Wheel
D. View with instrument panel removed

Component Description

INFOID:0000000009443157

No.	Component parts	Function
1.	Combination meter	Transmits the vehicle speed signal via CAN communication to BCM.
		Receives the low tire pressure warning lamp signal via CAN communication from BCM.
2.	Remote keyless entry receiver	WT-6, "Remote Keyless Entry Receiver".
3.	Transmitter	WT-7, "Transmitter".
4.	BCM	WT-6, "BCM".

BCM

INFOID:0000000009443158

The BCM reads the tire pressure signal received by the remote keyless entry receiver, and controls the low tire pressure warning lamp and the buzzer operations. It also has a self-diagnosis function to detect a system malfunction.

Remote Keyless Entry Receiver

INFOID:0000000009443159

The remote keyless entry receiver receives the tire pressure signal transmitted by the transmitter in each wheel.

Transmitter

INFOID:0000000009443160

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

Low Tire Pressure Warning Lamp

INFOID:0000000009443161

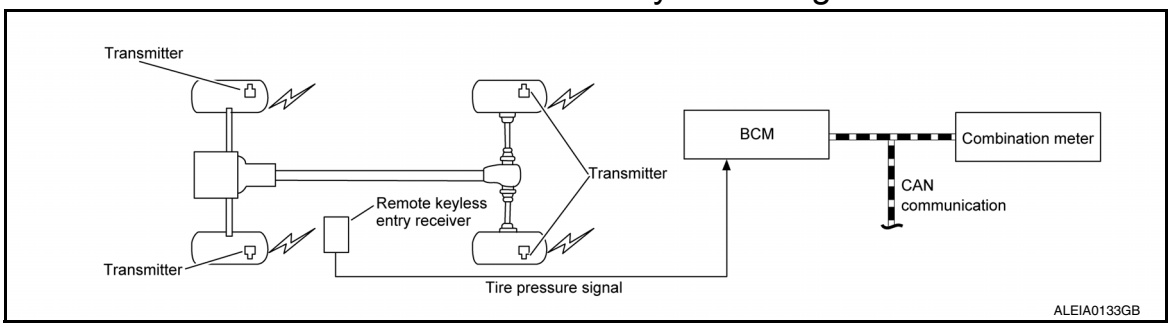
The combination meter receives tire pressure status from the BCM using CAN communication. When a low tire pressure condition is sensed by the BCM, the combination meter low tire pressure warning lamp is activated.

SYSTEM

TIRE PRESSURE MONITORING SYSTEM

TIRE PRESSURE MONITORING SYSTEM : System Diagram

INFOID:0000000009443162



TIRE PRESSURE MONITORING SYSTEM : System Description

INFOID:0000000009443163

- The BCM has pressure judgment and trouble diagnosis functions. When the BCM detects low inflation pressure or another unusual symptom, the low tire pressure warning lamp in the combination meter is illuminated.
- If the tire pressure is less than the specified value, the low tire pressure warning lamp illuminates.
- The TPMS (Tire Pressure Monitoring System) is activated when vehicle speed is 40 km/h (25 MPH) or more.

INPUT/OUTPUT SIGNAL

Component	Signal Description
BCM	Transmits the low tire pressure warning lamp signal via CAN communication to combination meter.
Combination meter	Transmits the vehicle speed signal via CAN communication to BCM.

LOW TIRE PRESSURE WARNING LAMP CONTROL CONDITION

The BCM uses CAN communication to illuminate the low tire pressure warning lamp in the combination meter.

Condition	Low tire pressure warning lamp
Ignition switch OFF	OFF
Ignition switch ON (system normal)	Warning light turns on for 1second, then turns off.
Low tire pressure	ON
Transmitter ID not registered in BCM.	
Tire pressure monitoring system malfunction	Warning light blinks 1 minute, then turns on.
Tire pressure sensor is in OFF state	Blink (Blinking pattern depends on the positions of nonoperational tire pressure sensors.)

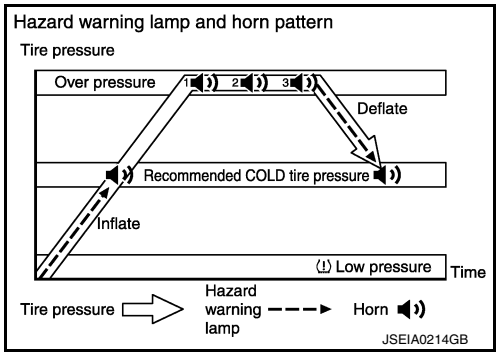
TIRE PRESSURE MONITORING SYSTEM : Easy Fill Tire Alert Function

INFOID:0000000009697578

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

CAUTION:
Never start the engine.
NOTE:
The easy fill tire alert function is recommended to use with the ignition switch ON.

- This function informs the driver of the satisfaction of the recommended COLD tire pressure.
  The hazard warning lamp blinks when reaching the recommended COLD tire pressure during radio wave reception. After reaching the recommended COLD tire pressure, the horn sounds once and the hazard warning lamp stops blinking.
- When tire pressure becomes a value equal to or more than 30 kPa (0.31 kg/cm^2, 4 psi) more than the recommended COLD tire pressure, the hazard warning lamp and the horn operates three times. After deflating the tire and reaching the recommended COLD tire pressure, the horn sounds only once and the hazard warning lamp stops blinking.



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.

DIAGNOSIS SYSTEM (BCM)
WITH INTELLIGENT KEY

WITH INTELLIGENT KEY : CONSULT Function (BCM - COMMON ITEM) INFOID:0000000009698606

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	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×		×	×		
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×		×		
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

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

INFOID:0000000009698607

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

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs
- 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 ID, or else 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 transmitter.
ID REGST FR1 [Done/Yet]	Indicates ID registration status of front RH transmitter.
ID REGST RR1 [Done/Yet]	Indicates ID registration status of rear RH transmitter.
ID REGST RL1 [Done/Yet]	Indicates ID registration status of rear LH transmitter.
WARNING LAMP [Off/On]	Indicates condition of low tire pressure warning lamp in combination meter.
BUZZER [Off/On]	Indicates condition of buzzer in combination meter.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Description
ID READ	The registered ID number is displayed.
ID REGIST	Refer to WT-22, "Description".

WITHOUT INTELLIGENT KEY

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

INFOID:0000000009698608

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			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×		×	×		
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×		×		
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

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

INFOID:0000000009698609

NOTE:

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

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

- Read TPMS DTCs
- Register TPMS transmitter IDs
- Test remote keyless entry keyfob relative signal strength

SELF DIAGNOSTIC RESULT

NOTE:
Before performing self diagnostic result, be sure to register the ID, or else the actual malfunction may be different from that displayed on CONSULT.
Refer to BCS-109, "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 transmitter.
ID REGST FR1 [Done/Yet]	Indicates ID registration status of front RH transmitter.
ID REGST RR1 [Done/Yet]	Indicates ID registration status of rear RH transmitter.
ID REGST RL1 [Done/Yet]	Indicates ID registration status of rear LH transmitter.
WARNING LAMP [Off/On]	Indicates condition of low tire pressure warning lamp in combination meter.
BUZZER [Off/On]	Indicates condition of buzzer in combination meter.

ACTIVE TEST

Test Item	Description
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 registration warning chime operation [On/Off].
FLASHER	This test is able to check turn signal lamp operation [Off/LH/RH].

WORK SUPPORT

Support Item	Description
ID READ	The registered ID number is displayed.
ID REGIST	Refer to WT-22, "Description".

ECU DIAGNOSIS INFORMATION

BCM

List of ECU Reference

INFOID:0000000009443168

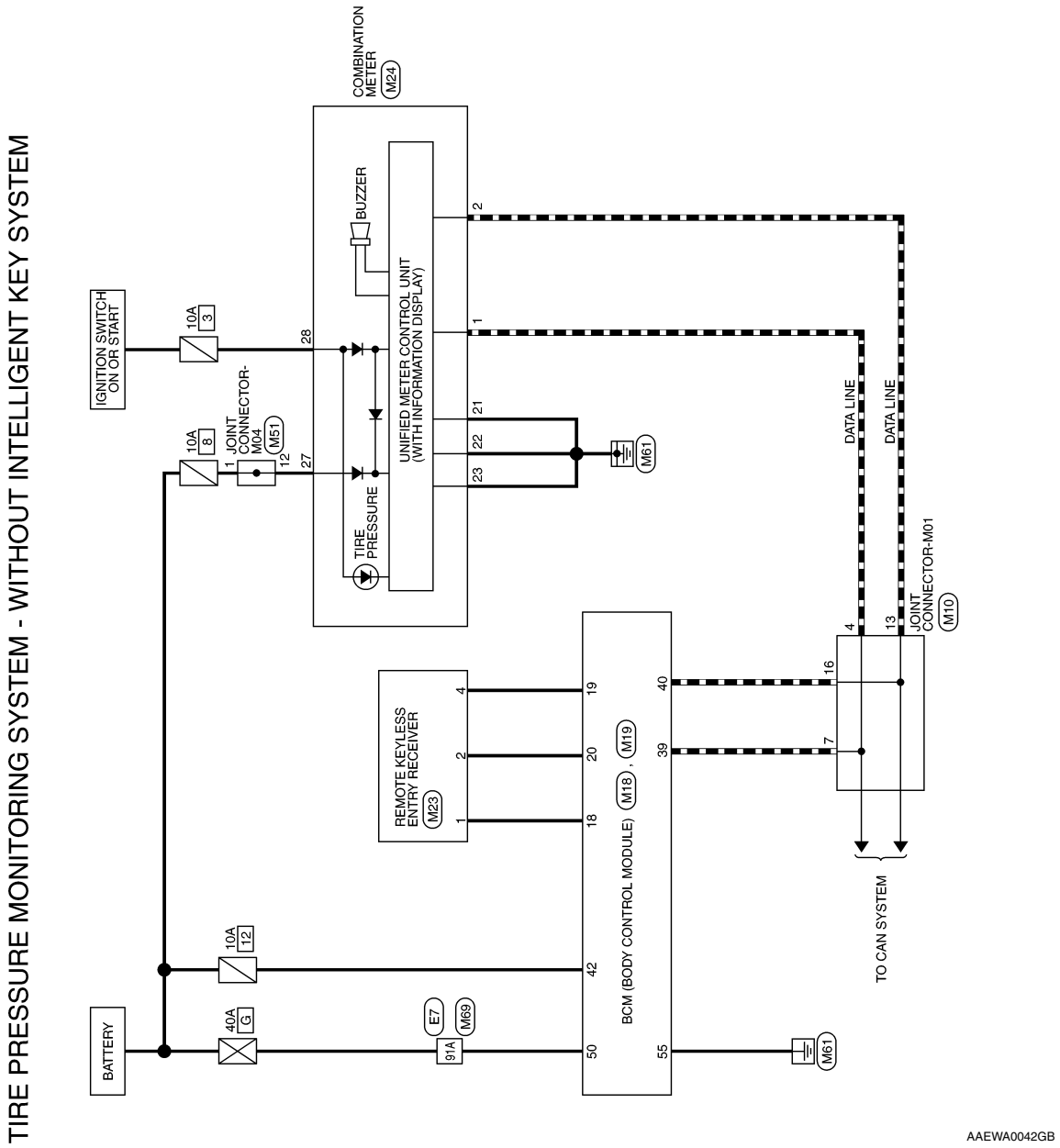
ECU	Reference
BCM (with Intelligent Key system)	BCS-28, "Reference Value"
	BCS-46, "Fail-safe"
	BCS-47, "DTC Inspection Priority Chart"
	BCS-48, "DTC Index"
BCM (without Intelligent Key system)	BCS-95, "Reference Value"
	BCS-108, "Fail-safe"
	BCS-109, "DTC Inspection Priority Chart"
	BCS-109, "DTC Index"

WIRING DIAGRAM

TIRE PRESSURE MONITORING SYSTEM

Wiring Diagram - With Intelligent Key

INFOID:0000000009761228



TIRE PRESSURE MONITORING SYSTEM CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

Connector No.	M10
Connector Name	JOINT CONNECTOR - M01
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
4	L	–
7	L	–
13	P	–
16	P	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
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
18	V	KEYLESS & AUTO LIGHT SENSOR GND
19	LG	KEYLESS TUNER POWER SUPPLY
20	G	KEYLESS TUNER SIGNAL
39	L	CAN-H
40	P	CAN-L

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

41	42	43	44	45	46	47	48	49
50	51	52	53	54	55			

Terminal No.	Color of Wire	Signal Name
42	Y	BATTERY (FUSE)
50	G	BATTERY (F/L)
55	B	GND

Connector No.	M23
Connector Name	REMOTE KEYLESS ENTRY RECEIVER
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	V	–
2	G	–
4	LG	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
2	P	CAN-L
21	B	GND (ILLUMINATION)
22	B	GND (POWER)
23	B	GND (CIRCUIT)
27	R/W	BAT
28	GR	IGN

Connector No.	M51
Connector Name	JOINT CONNECTOR - M04
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	LG	–
12	R/W	–

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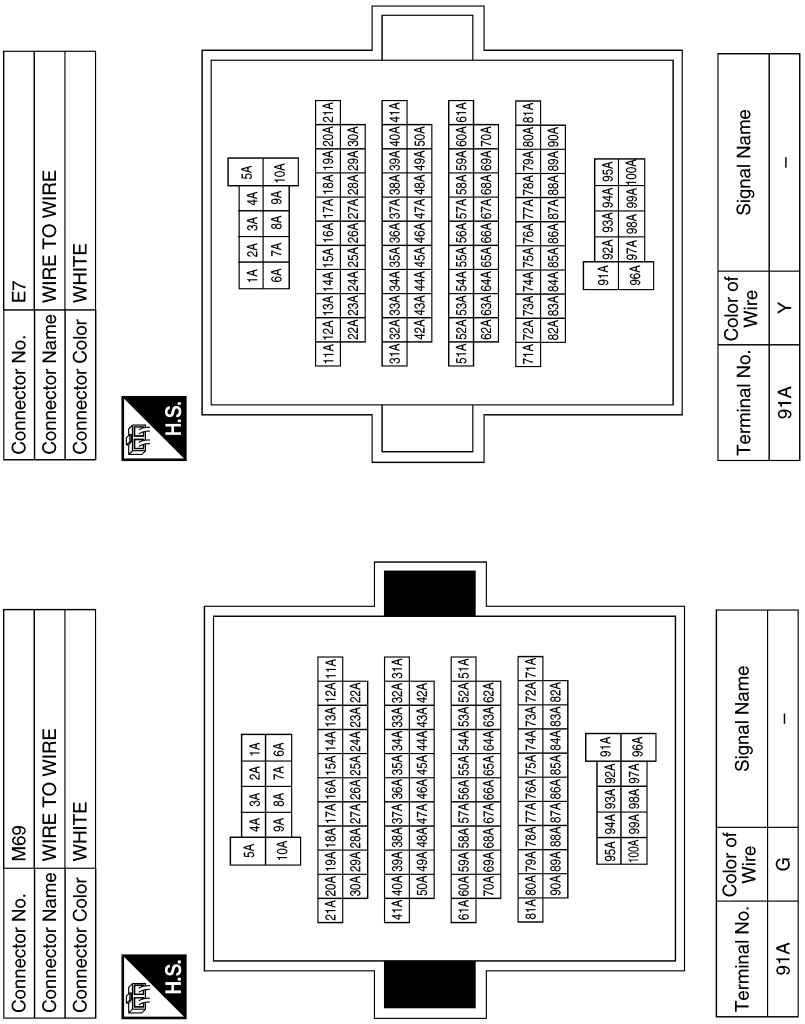

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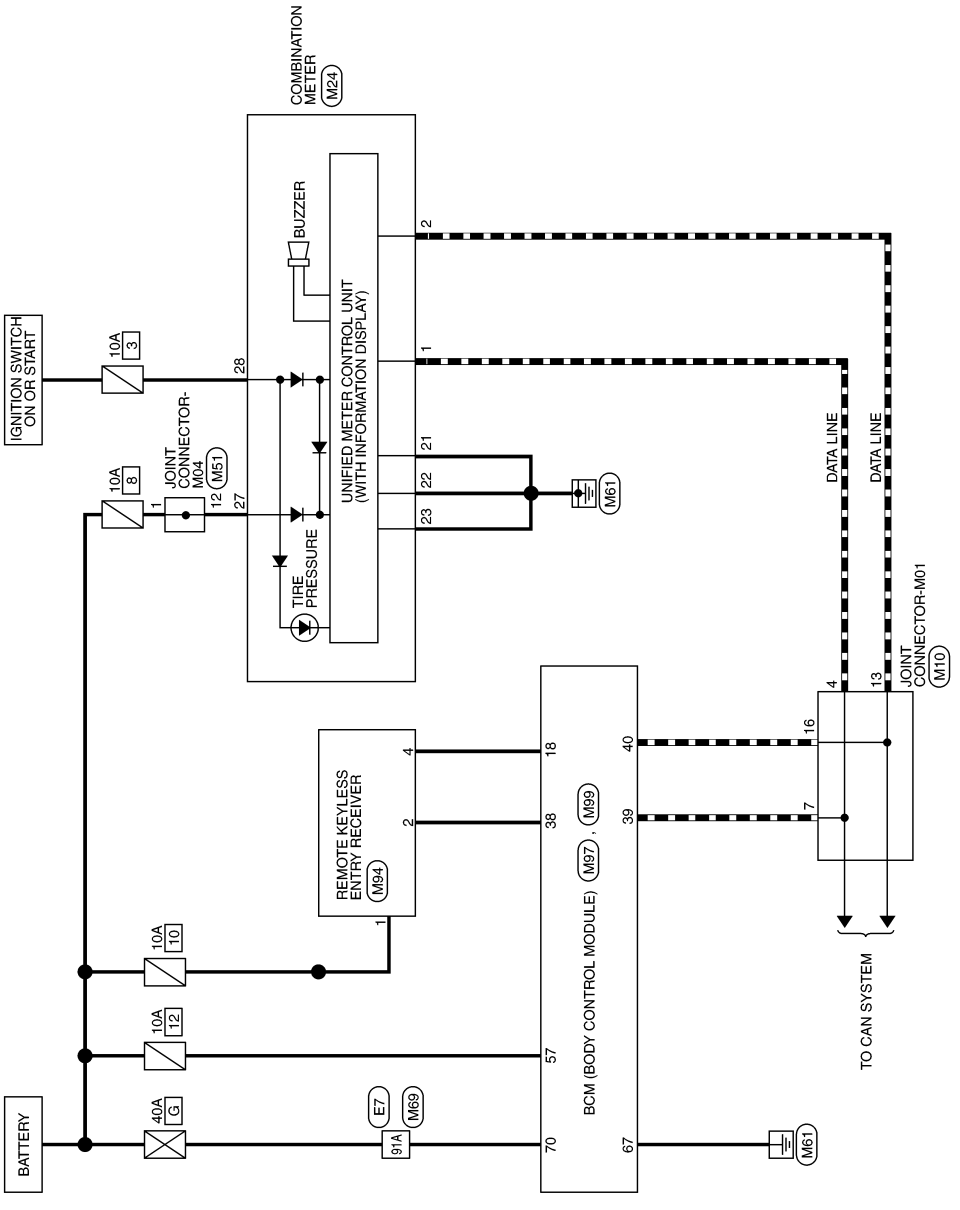
Wiring Diagram - With Intelligent Key

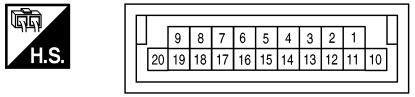
INFOID:0000000009761227

TIRE PRESSURE MONITORING SYSTEM - WITH INTELLIGENT KEY SYSTEM



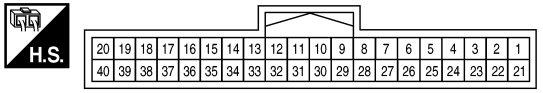
TIRE PRESSURE MONITORING SYSTEM - WITH INTELLIGENT KEY SYSTEM CONNECTORS

Connector No.	M10
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE



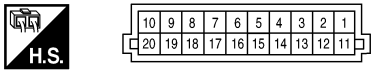
Terminal No.	Color of Wire	Signal Name
4	L	–
7	L	–
13	P	–
16	P	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



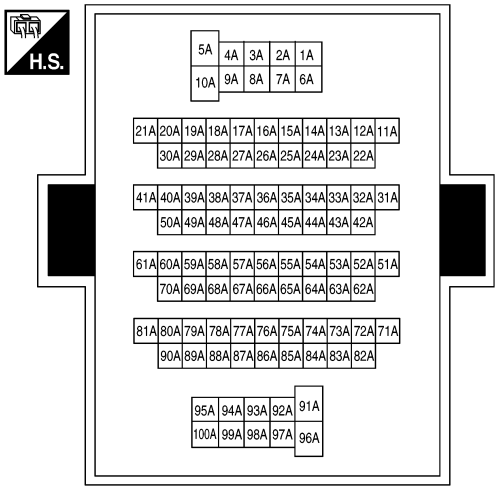
Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
2	P	CAN-L
21	B	GND (ILLUMINATION)
22	B	GND (POWER)
23	B	GND (CIRCUIT)
27	R/W	BAT
28	GR	IGN

Connector No.	M51
Connector Name	JOINT CONNECTOR-M04
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	LG	–
12	R/W	–

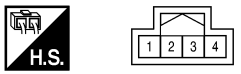
Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



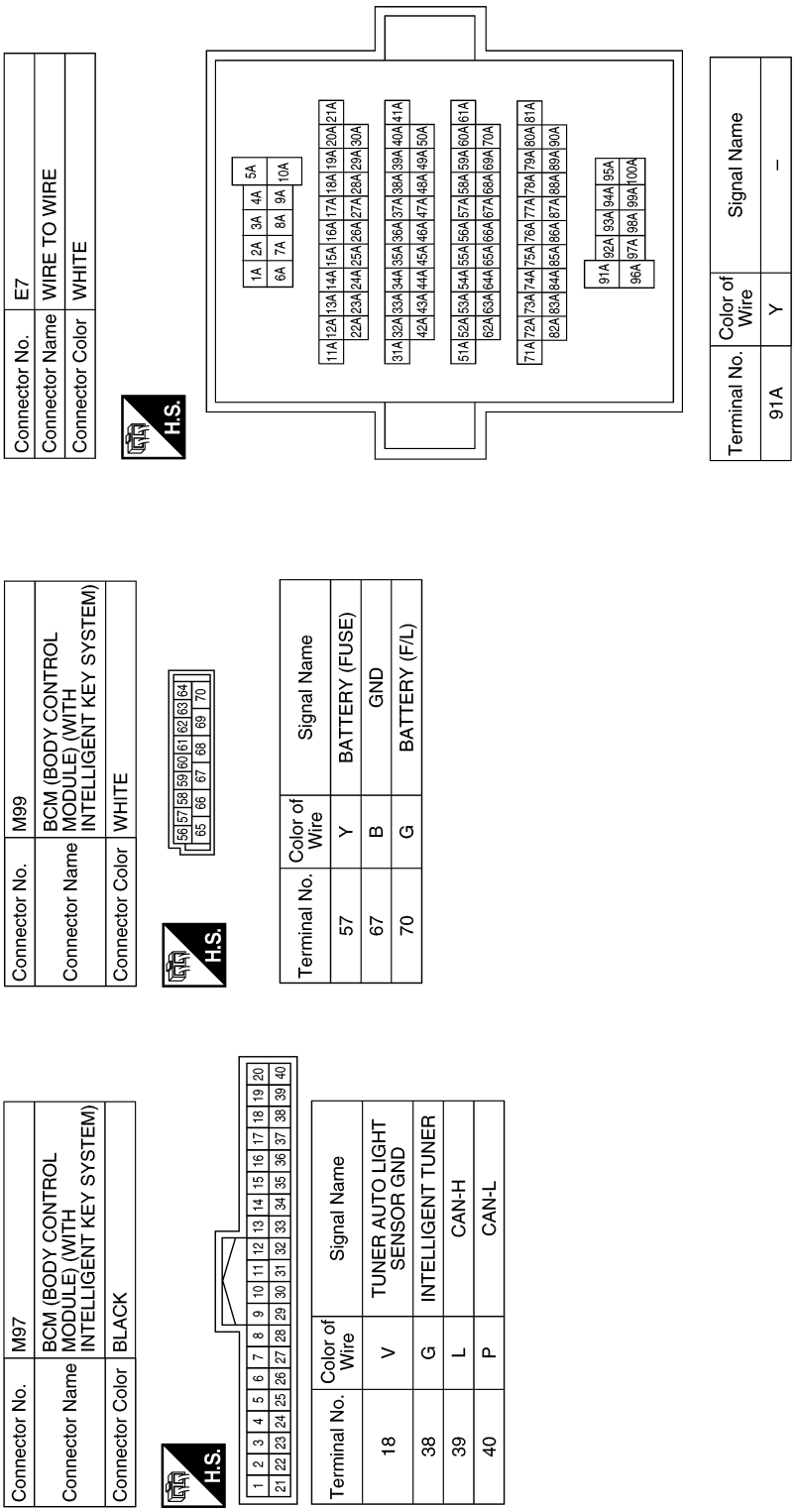
AAEIA0081GB

Terminal No.	Color of Wire	Signal Name
91A	G	–

Connector No.	M94
Connector Name	REMOTE KEYLESS ENTRY RECIEVER (WITH TIRE PRESSURE MONITOR SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LG	–
2	G	–
4	V	–



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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000009443170

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

1.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-50, "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 I-key) or BCS-93, "AIR PRESSURE MONITOR : CONSULT Function (BCM - AIR PRESSURE MONITOR)" (without I-key).

Are any DTCs displayed?

YES >> Refer to BCS-48, "DTC Index" (with I-key) or BCS-109, "DTC Index" (without I-key). If two or more DTCs are displayed, refer to BCS-47, "DTC Inspection Priority Chart" (with I-key) or BCS-109, "DTC Inspection Priority Chart" (without I-key).
NO >> GO TO 5.

5.PERFORM DIAGNOSIS APPLICABLE TO THE SYMPTOM

Perform diagnosis applicable to the symptom. Refer to WT-33, "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 I-key) or BCS-93, "AIR PRESSURE MONITOR : CONSULT Function (BCM - AIR PRESSURE MONITOR)" (without I-key).

>> Inspection End.

ID REGISTRATION PROCEDURE

Description

INFOID:0000000009761229

This procedure must be performed after replacing wheels, transmitters or the BCM, or rotating wheels.

Work Procedure

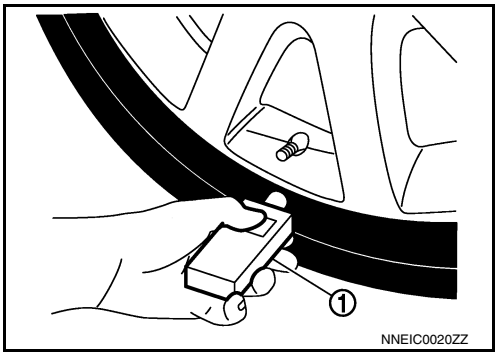
INFOID:0000000009761230

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

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

With CONSULT

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



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

Sequence	ID registration position	Turn signal lamp	CONSULT
1	Front LH	2 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.

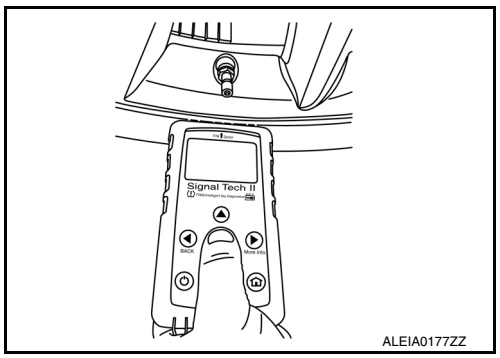
TPMS REGISTRATION WITH SIGNAL TECH II TOOL (J-50190)

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

With CONSULT

1. Adjust the tire pressure for all tires to the recommended value. Refer to WT-50, "Tire Air Pressure".
2. Turn the ignition switch ON.
3. Using CONSULT, select “WORK SUPPORT” in BCM (AIR PRESSURE MONITOR). Then, select “ID REGIST.”
4. Select “Start” on “ID REGIST” screen.
5. 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.

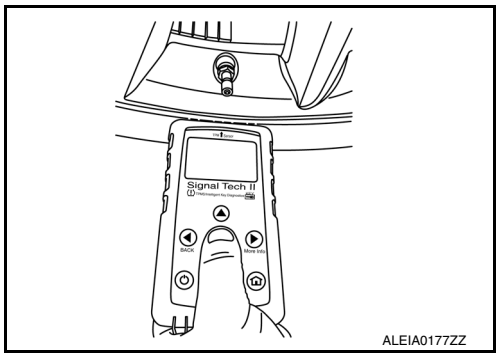


Sequence	ID registration position	Turn signal lamp	CONSULT
1	Front LH	2 blinks	“Yet (red)” ↓ “Done (green)”
2	Front RH		
3	Rear RH		
4	Rear LH		

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-50, "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 “WORK SUPPORT” in BCM (AIR PRESSURE MONITOR). Then, select “ID REGIST.”
4. Select “Start” on “ID REGIST” screen.
5. Drive the vehicle at a speed greater than 40 km/h (25 MPH) for 3 minutes or more.
6. After ID registration for all wheels is complete, press “End” on the CONSULT to finish ID registration.

ID registration position	CONSULT
Front LH	“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-50, "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:0000000009443175

DTC DETECTION LOGIC

DTC	Display item	Malfunction detected condition	Possible causes
C1704	LOW PRESSURE FL	Front LH tire pressure drops to 182.7 kPa (1.9 kg/cm^2, 26 psi) or less.	Low tire pressure
C1705	LOW PRESSURE FR	Front RH tire pressure drops to 182.7 kPa (1.9 kg/cm^2, 26 psi) or less.	
C1706	LOW PRESSURE RR	Rear RH tire pressure drops to 182.7 kPa (1.9 kg/cm^2, 26 psi) or less.	
C1707	LOW PRESSURE RL	Rear LH tire pressure drops to 182.7 kPa (1.9 kg/cm^2, 26 psi) or less.	

DTC CONFIRMATION PROCEDURE

1. PERFORM SELF DIAGNOSTIC RESULT

With CONSULT

1. Turn the ignition switch ON.
2. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-50, "Tire Air Pressure".
3. Perform “SELF DIAGNOSTIC RESULT”.

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

YES >> Proceed to WT-25, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009443176

1. CHECK DATA MONITOR

With CONSULT

1. Drive for 3 minutes at a speed of 40 km/h (25 MPH) or more, then drive normally for 10 minutes.
2. Stop the vehicle.
3. On “DATA MONITOR” select “AIR PRESS FL”, “AIR PRESS FR”, “AIR PRESS RR” and “AIR PRESS RL”.
4. Within 5 minutes after vehicle stopped, check that the tire pressures are within specification. Refer to WT-50, "Tire Air Pressure".

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace error-detected parts.

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

DTC Logic

INFOID:0000000009443177

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
C1708	[NO DATA] FL	Tire pressure data signal from the front LH wheel transmitter cannot be detected.	• Harness or connector connection malfunction • Transmitter ID registration incomplete • Transmitter malfunction
C1709	[NO DATA] FR	Tire pressure data signal from the front RH wheel transmitter cannot be detected.	
C1710	[NO DATA] RR	Tire pressure data signal from the rear RH wheel transmitter cannot be detected.	
C1711	[NO DATA] RL	Tire pressure data signal from the rear LH wheel transmitter cannot be detected.	

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT

1. Drive for 3 minutes at a speed of 40 km/h (25 MPH) or more, then drive normally for 10 minutes.
2. Stop the vehicle.
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:0000000009443178

Regarding Wiring Diagram information, refer to WT-15, "Wiring Diagram - With Intelligent Key".

1.CHECK DATA MONITOR

With CONSULT

1. Drive for 3 minutes at a speed of 40 km/h (25 MPH) or more, then drive normally for 10 minutes.
2. Stop the vehicle.
3. On “DATA MONITOR” select “AIR PRESS FL”, “AIR PRESS FR”, “AIR PRESS RR” and “AIR PRESS RL”.
4. Within 5 minutes after vehicle is stopped, read the values displayed on CONSULT.

Are all tire pressures displayed 0 kPa (psi)?

YES >> GO TO 2.
NO >> GO TO 5.

2.CHECK REMOTE KEYLESS ENTRY RECEIVER POWER CIRCUIT

Check voltage between remote keyless entry receiver connector and ground.

Remote keyless entry receiver		Ground	Voltage (Approx.)
Connector	Terminal		
M94 (with Intelligent Key system)	1	—	Battery voltage
M23 (without Intelligent Key system)	4		

Is the inspection result normal?

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

3.CHECK REMOTE KEYLESS ENTRY RECEIVER SIGNAL CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect BCM and remote keyless entry receiver connectors.
3. Check continuity between BCM and remote keyless entry receiver connectors.

BCM		Remote keyless entry receiver		Continuity
Connector	Terminal	Connector	Terminal	
M97 (with Intelligent Key system)	38	M94 (with Intelligent Key system)	2	Yes
M18 (without Intelligent Key system)	20	M23 (without Intelligent Key system)		

4. Check continuity between BCM connector and ground.

BCM		—	Continuity
Connector	Terminal		
M97 (with Intelligent Key system)	38	Ground	No
M18 (without Intelligent Key system)	20		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the malfunctioning harness or connector.

4. CHECK REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT

Check continuity between BCM and remote keyless entry receiver connectors.

BCM		Remote keyless entry receiver		Continuity
Connector	Terminal	Connector	Terminal	
M97 (with Intelligent Key system)	18	M94 (with Intelligent Key system)	4	Yes
M18 (without Intelligent Key system)		M23 (without Intelligent Key system)	1	

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace the malfunctioning harness or connector.

5. TRANSMITTER ID REGISTRATION

Perform transmitter ID registration. Refer to WT-22, "Work Procedure".

Is transmitter ID registration completed?

YES >> GO TO 6.
NO >> Replace applicable transmitter. Refer to WT-46, "Removal and Installation".

6. CHECK TIRE PRESSURE SIGNAL

With CONSULT

1. Drive for 3 minutes at a speed of 40 km/h (25 MPH) or more, then drive normally for 10 minutes.
2. Stop the vehicle.
3. On “DATA MONITOR” select “AIR PRESS FL”, “AIR PRESS FR”, “AIR PRESS RR” and “AIR PRESS RL”.
4. Within 5 minutes after vehicle stopped, check that the tire pressures are within specification. Refer to WT-50, "Tire Air Pressure".

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace the BCM. Refer to BCS-70, "Removal and Installation" (with I-Key) or BCS-127, "Removal and Installation" (without I-Key).

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

DTC Logic

INFOID:0000000009443179

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
C1716	[PRESSDATA ERR] FL	Malfunction in the tire pressure data from the front LH wheel transmitter.	• Transmitter ID registration incomplete • Transmitter malfunction
C1717	[PRESSDATA ERR] FR	Malfunction in the tire pressure data from the front RH wheel transmitter.	
C1718	[PRESSDATA ERR] RR	Malfunction in the tire pressure data from the rear RH wheel transmitter.	
C1719	[PRESSDATA ERR] RL	Malfunction in the tire pressure data from the rear LH wheel transmitter.	

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT

1. Turn the ignition switch ON.
2. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-50, "Tire Air Pressure".
3. Perform “SELF DIAGNOSTIC RESULT”.

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

YES >> Proceed to WT-28, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009443180

1.CHECK TIRE PRESSURE

Check the air pressure of all wheels. Refer to pressure observed during “DTC CONFIRMATION PROCEDURE”.

Is the inspection result normal?

YES >> Replace the DTC-detected malfunctioning transmitter. Refer to WT-46, "Removal and Installation".
NO >> GO TO 2.

2.CHECK TIRE PRESSURE SIGNAL

With CONSULT

1. Perform transmitter ID registration for all wheels. Refer to WT-22, "Work Procedure".
2. Drive for 3 minutes at a speed of 40 km/h (25 MPH) or more, then drive normally for 10 minutes.
3. Stop the vehicle.
4. On “DATA MONITOR” select “AIR PRESS FL”, “AIR PRESS FR”, “AIR PRESS RR” and “AIR PRESS RL”.
5. Within 5 minutes after vehicle is stopped, read the values displayed on CONSULT.

Are tire pressures displayed as 438.6 kPa (4.47 kg/cm^2, 63.6 psi)?

YES >> Replace transmitter for the tire that displayed pressure as 438.6 kPa (4.47 kg/cm^2, 63.6 psi). Refer to WT-46, "Removal and Installation".
NO >> Perform “DTC CONFIRMATION PROCEDURE” again. Refer to WT-28, "DTC Logic".

C1729 VEHICLE SPEED SIGNAL

DTC Logic

INFOID:0000000009443181

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
C1729	VHCL SPEED SIG ERR	Vehicle speed signal not detected.	• CAN communication malfunction • Combination meter malfunction

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

With CONSULT

1. Drive for 3 minutes at a speed of 40 km/h (25 MPH) or more without stopping.
2. Stop the vehicle.
3. Perform “SELF DIAGNOSTIC RESULT”.

Is DTC “C1729” detected?

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

Diagnosis Procedure

INFOID:0000000009443182

1.PERFORM COMBINATION METER SELF DIAGNOSTIC RESULT

With CONSULT

Perform “SELF DIAGNOSTIC RESULT” for “METER/M&A”. Refer to MWI-15, "CONSULT Function".

Are any DTCs detected?

YES >> Refer to MWI-21, "DTC Index".
NO >> GO TO 2.

2.CHECK BCM INPUT/OUTPUT SIGNAL

Check the BCM input/output signal values. Refer to BCS-28, "Reference Value" (with I-key) or BCS-95, "Reference Value" (without I-key).

Is the inspection result normal?

YES >> Check pin terminal and connection of each harness connector for malfunctioning conditions.
NO >> Replace the BCM. Refer to BCS-70, "Removal and Installation" (with I-Key) or BCS-127, "Removal and Installation" (without I-Key).

LOW TIRE PRESSURE WARNING LAMP

Component Function Check

INFOID:0000000009443183

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-30, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009443184

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 MWI-21, "DTC Index".
NO >> GO TO 3.

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-15, "CONSULT Function".
NO >> Replace the BCM. Refer to BCS-70, "Removal and Installation" (with I-Key) or BCS-127, "Removal and Installation" (without I-Key).

POWER SUPPLY AND GROUND CIRCUIT WITH INTELLIGENT KEY

WITH INTELLIGENT KEY : Diagnosis Procedure

INFOID:0000000009761238

Regarding Wiring Diagram information, refer to BCS-51, "Wiring Diagram".

1.CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not blown.

Terminal No.	Signal name	Fuses and fusible link No.
57	Battery power supply	12 (10A)
70		G (40A)

Is the fuse blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M99.
2. Check voltage between BCM connector M99 and ground.

BCM		Ground	Voltage
Connector	Terminal		
M99	57	—	Battery voltage
	70		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector M99 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M99	67	—	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair harness or connector.

WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY : Diagnosis Procedure

INFOID:0000000009761239

Regarding Wiring Diagram information, refer to BCS-111, "Wiring Diagram".

1.CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not blown.

Terminal No.	Signal name	Fuses and fusible link No.
37	Battery power supply	8 (10A)
42		12 (10A)
50		G (40A)
11	Ignition switch ACC or ON	18 (10A)
38	Ignition switch ON or START	2 (10A)

Is the fuse blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connectors.
3. Check voltage between BCM connector and ground.

BCM		Ground	Ignition switch position		
Connector	Terminal		OFF	ACC	ON
M18	11	—	0 V	Battery voltage	Battery voltage
	37		Battery voltage		
	38		0 V	0 V	
M19	42		Battery voltage	Battery voltage	
	50				

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M19	55	—	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair harness or connector.

SYMPTOM DIAGNOSIS

TPMS SYMPTOMS

Symptom Table

INFOID:0000000009443187

Symptom	Reference
Low tire pressure warning lamp does not turn ON.	WT-34
Low tire pressure warning lamp does not turn OFF.	WT-35
Low tire pressure warning lamp blinks.	WT-36
ID registration cannot be completed.	WT-39
Easy fill alert does not activate.	WT-37

LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON

Diagnosis Procedure

INFOID:0000000009443188

1.PERFORM SELF DIAGNOSTIC RESULT

Perform “SELF DIAGNOSTIC RESULT”.

Is DTC “U1000” detected?

YES >> Malfunction in CAN communication system. Refer to LAN-55, "Diagnosis Procedure".
NO >> GO TO 2

2.CHECK COMBINATION METER

Check combination meter operation. Refer to MWI-15, "CONSULT Function".

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-70, "Removal and Installation".
NO >> Replace combination meter. Refer to MWI-54, "Removal and Installation".

LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN OFF

Diagnosis Procedure

INFOID:0000000009443189

1.INSPECT BCM CONNECTOR

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 parts.

2.BCM POWER SUPPLY AND GROUND CIRCUITS

Check BCM power supply and ground circuits. Refer to BCS-64, "Diagnosis Procedure" (with I-key) or BCS-120, "Diagnosis Procedure" (without I-key).

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-70, "Removal and Installation" (with I-Key) or BCS-127, "Removal and Installation" (without I-Key).
NO >> Repair BCM circuits.

LOW TIRE PRESSURE WARNING LAMP BLINKS

Diagnosis Procedure

INFOID:0000000009443190

NOTE:
If low tire pressure warning lamp repeats blinking ON for 2 seconds and OFF for 0.2 seconds, ID registration for all transmitters is not complete.
Carry out ID registration. Refer to WT-22, "Work Procedure".

1.CHECK BCM CONNECTOR

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

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-70, "Removal and Installation" (with I-Key) or BCS-127, "Removal and Installation" (I-Key).
NO >> Repair or replace damaged parts.

EASY FILL TIRE ALERT DOES NOT ACTIVATE

Description

INFOID:0000000009697579

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-8, "TIRE PRESSURE MONITORING SYSTEM : Easy Fill Tire Alert Function".

Diagnosis Procedure

INFOID:0000000009697580

1. LOCATION CHANGE

Move the vehicle to other area and repeat the procedure of the easy fill tire alert function. Refer to WT-8, "TIRE PRESSURE MONITORING SYSTEM : 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”.

Is any DTC detected?

YES >> Perform trouble diagnosis for detected DTC. Refer to BCS-48, "DTC Index" (with I-key) or BCS-109, "DTC Index" (without I-key).
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 trouble diagnosis for the hazard warning lamp. Refer to EXL-82, "Diagnosis Procedure" .

4. PERFORM TCM SELF-DIAGNOSIS

With CONSULT

Perform self-diagnosis for “TRANSMISSION”.

Is any DTC detected?

YES >> Check malfunctioning circuit. Refer to TM-112, "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 error-detected parts.

6. PERFORM BCM 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”.

Is any DTC detected?

YES >> Check malfunctioning circuit. Refer to BCS-48, "DTC Index" (with I-key) or BCS-109, "DTC Index" (without I-key).

NO >> Replace BCM. Refer to BCS-70, "Removal and Installation" (with I-Key) or BCS-127, "Removal and Installation" (without I-Key).

ID REGISTRATION CANNOT BE COMPLETED

Diagnosis Procedure

INFOID:0000000009443191

1.PERFORM ID REGISTRATION OF ALL TRANSMITTERS

Carry out ID registration of all transmitters. Refer to WT-22, "Work Procedure".

Can ID registration of all transmitters be completed?

YES >> Inspection End.
NO >> Refer to WT-11, "WITH INTELLIGENT KEY : CONSULT Function (BCM - AIR PRESSURE MONITOR)" (with I-Key) or WT-12, "WITHOUT INTELLIGENT KEY : CONSULT Function (BCM - AIR PRESSURE MONITOR)" (without (I-Key).

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:0000000009443192

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

Reference page			WT-41	WT-41	WT-42	WT-50	FSU-8	—	—	WT-50	FSU-5 FAX-6	RAX-4 RSU-4	—	—	FAX-6	BR-7	ST-7
Possible cause and SUSPECTED PARTS			Improper installation, looseness	Out-of-round	Imbalance	Incorrect tire pressure	Uneven tire wear	Deformation or damage	Non-uniformity	Incorrect tire size	FRONT AXLE AND FRONT SUSPENSION	REAR AXLE AND REAR SUSPENSION	TIRES	ROAD WHEELS	DRIVE SHAFT	BRAKE	STEERING
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

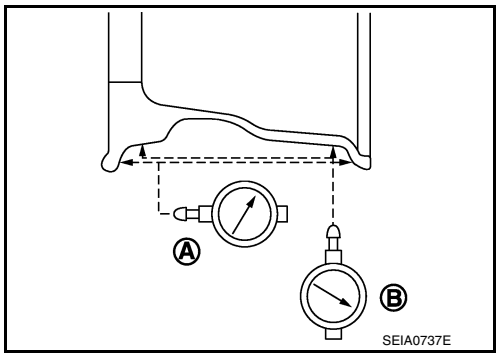
WHEEL

Inspection

INFOID:0000000009446796

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-50, "Wheel".
Radial Runout (B)	Refer to WT-50, "Wheel".

WHEEL AND TIRE

Adjustment

INFOID:0000000009446795

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 and tire during removal.**
- **After removing double-faced adhesive tape, wipe clean all traces of releasing agent from the wheel and tire.**

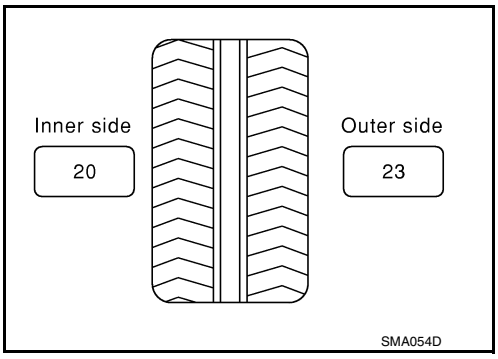
Wheel Balance Adjustment

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)



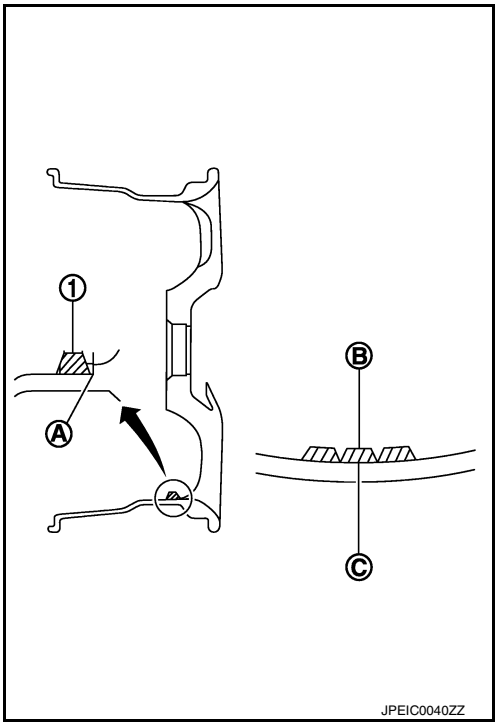
3. Install balance weight in the position shown.

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:

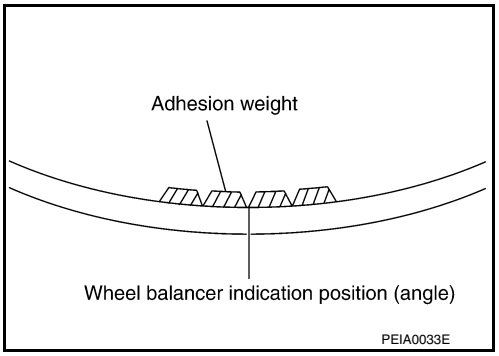
Do not install one balance weight sheet on top of another.

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.



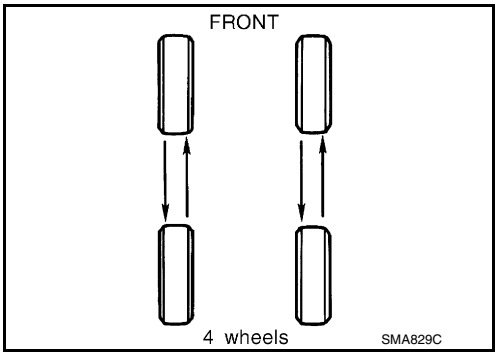
Wheel balance	Dynamic (At flange)	Static (At flange)
Maximum allowable imbalance	Refer to WT-50, "Wheel".	

TIRE ROTATION

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

WARNING:

- **After rotating the tires, check and adjust the tire pressure.**
- **Retighten the wheel nuts when the vehicle has been driven for 1,000 km (600 mi) (also in case of a flat tire, etc.).**
- **Do not include the spare tire when rotating the tires.**



CAUTION:

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

Wheel nut tightening torque	**: WT-45, "Exploded View"**

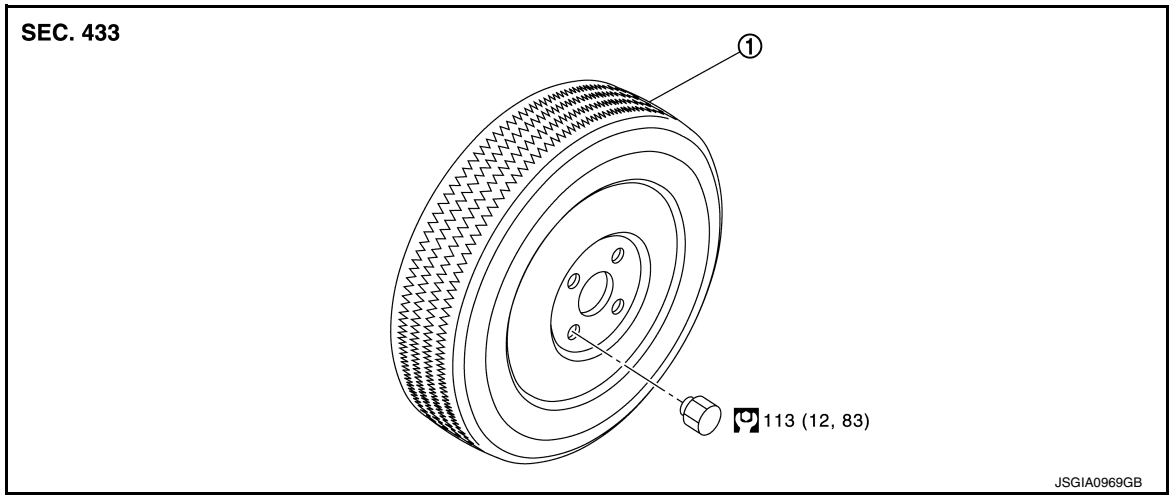
- Perform the ID registration after tire rotation. Refer to WT-22, "Work Procedure".

REMOVAL AND INSTALLATION

WHEEL AND TIRE

Exploded View

INFOID:0000000009446780



1. Wheel and tire

Removal and Installation

INFOID:0000000009446781

REMOVAL

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

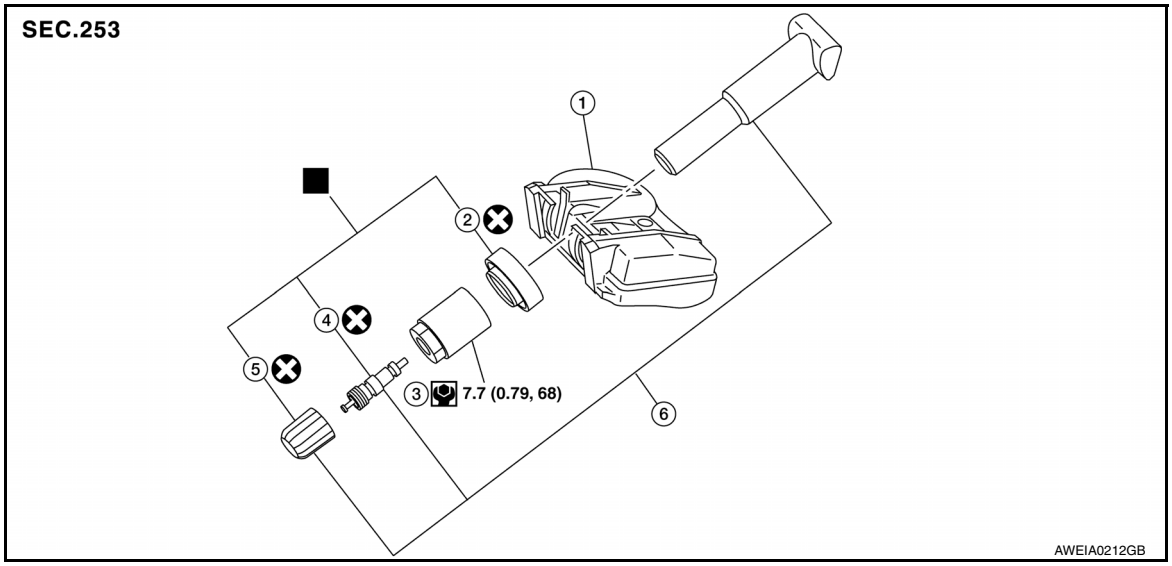
INSTALLATION

Installation is in the reverse order of removal.

TRANSMITTER

Exploded View

INFOID:0000000009443195



1. Transmitter (tire pressure sensor)
2. O-ring
3. Valve stem nut
4. Valve core
5. Valve cap
6. Valve stem assembly

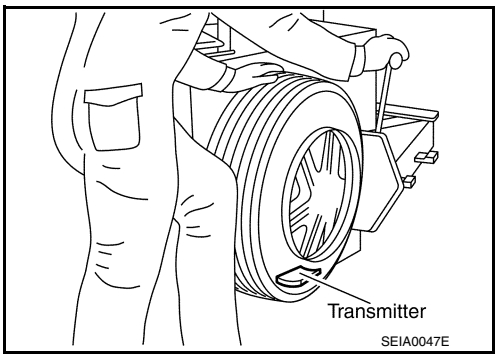
■: Parts that are replaced as a set when the tire is replaced.

Removal and Installation

INFOID:0000000009443196

REMOVAL

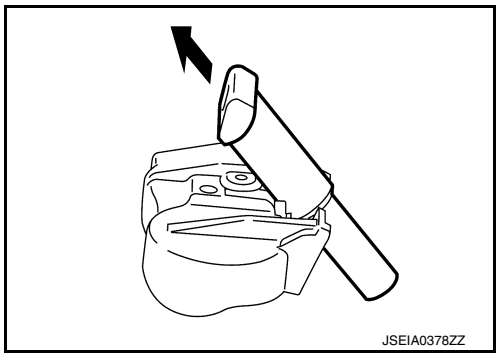
1. Remove wheel and tire using power tool.
2. Remove valve cap and valve core to deflate the tire.
   NOTE:
   If the tire is to be reused, apply a matching mark on the tire in line with the position of the valve stem assembly for the purpose of wheel and tire balance adjustment after installation.
3. Remove the valve stem nut and allow transmitter 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 transmitter.
   CAUTION:
   - **Do not use silicone lubricant. Use of silicone lubricant will deteriorate the wheel and tire.**
   - **Be sure not to damage the wheel or transmitter.**
   - **Do not allow lubricant to make contact with transmitter.**
5. Lubricate the tire inside bead well with a suitable non-silicone lubricant, and remove inside of tire from the wheel.
   CAUTION:
   - **Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.**

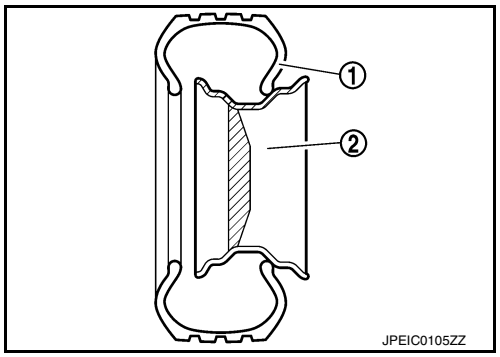
- **Be sure not to damage the wheel.**

6. Remove the valve stem from the transmitter as shown.

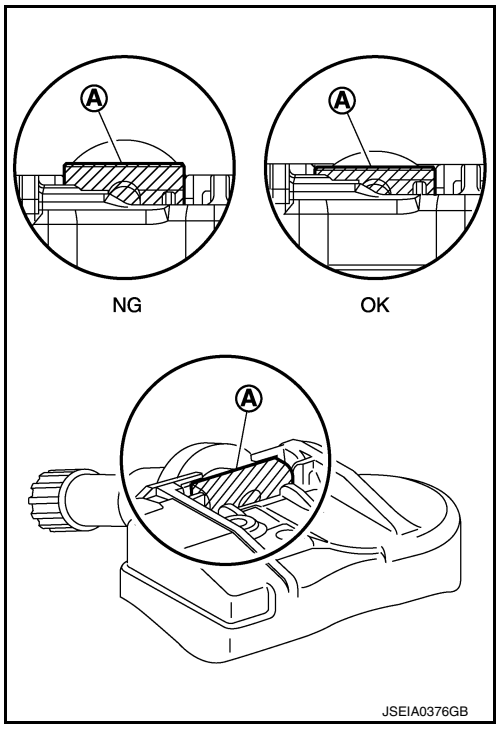


INSTALLATION

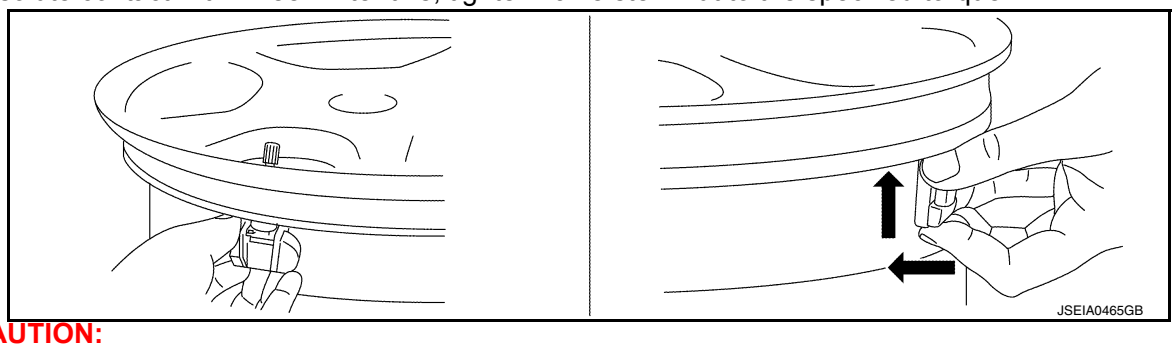
1. Apply a suitable non-silicone lubricant to the tire inside bead.
   CAUTION:
   - **Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.**
   - **Do not drop or strike the transmitter. Replace the transmitter if it has sustained an impact.**
2. Install the tire inside bead (1) onto the wheel (2) in the position shown.



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



5. Hold the tire pressure sensor as shown, and press the sensor in the direction (⬅) as shown to bring it into absolute contact with wheel. After this, tighten valve stem nut to the specified torque.



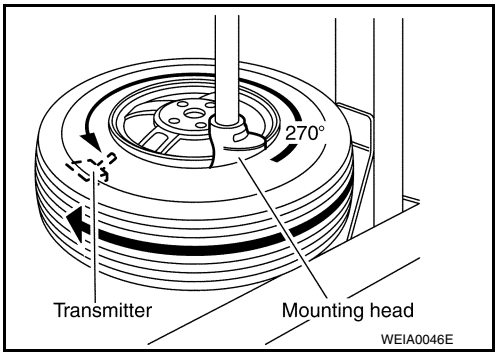
CAUTION:
- **Check that O-ring contacts horizontally with wheel.**
- **Check that the base of the valve stem is positioned in the groove of the metal plate.**
- **Be sure that no burrs exist in the valve stem hole of the wheel.**

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

Valve stem nut tightening torque	**:WT-45, "Exploded View"**

CAUTION:
Do not use power tool for installation.

7. Place wheel on turntable of tire machine. Ensure that transmitter is 270 degrees from mounting/dismounting head.
NOTE:
Do not touch transmitter with mounting head.



8. Apply a suitable non-silicone lubricant to the tire outside bead.
CAUTION:
- **Do not use silicone lubricant. Use of silicone lubricant will deteriorate the tire and wheel.**
- **Do not allow lubricant to make contact with transmitter.**
9. Install the tire outside bead onto the 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-42, "Adjustment".
13. Install wheel and tire in the appropriate position on vehicle. Refer to WT-45, "Removal and Installation".
NOTE:
If replacing the transmitter, then transmitter wake up operation must be performed. Refer to WT-22, "Work Procedure".
14. Adjust neutral position of steering angle sensor. Refer to BRC-53, "Work Procedure".

TIRE PRESSURE RECEIVER

Removal and Installation

INFOID:0000000009443197

The tire pressure receiver is integral to the remote keyless entry receiver. Refer to SEC-128, "Removal and Installation".

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel

INFOID:0000000009443198

ALUMINUM WHEEL

Item		Limit
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

Item		Limit
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:0000000009443199

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

Tire size	Transmission	Cold tire pressure		
		Front	Rear	Spare
P185/65R15 86H	M/T	230 (2.3, 33)	230 (2.3, 33)	—
P185/65R15 86H	CVT	250 (2.5, 36)	250 (2.5, 36)	—
P195/55R16 86V	M/T or CVT	250 (2.5, 36)	250 (2.5, 36)	—
T125/70D15	M/T or CVT	—	—	420 (4.2, 60)