SECTION WT
ROAD WHEELS & TIRES

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000007578460

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

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, 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 “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Service Notice and Precautions for TPMS

INFOID:0000000007578461

- Low tire pressure warning lamp blinks for 1min, 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-21, "Work Procedure".
- ID registration is required when replacing or rotating wheels, replacing tire pressure sensor or BCM. 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-44, "WITH INTELLIGENT KEY : Exploded View" (With intelligent key system), WT-47, "WITHOUT INTELLIGENT KEY : Exploded View" (Without intelligent key system).
- 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:0000000007578462

- 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.
- Never 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.

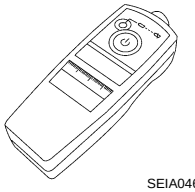
PREPARATION

PREPARATION

Special Service Tool

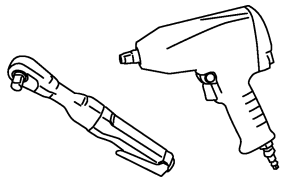
INFOID:0000000007578463

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) Tire pressure sensor activation tool  SEIA0462E	ID registration

Commercial Service Tool

INFOID:0000000007578464

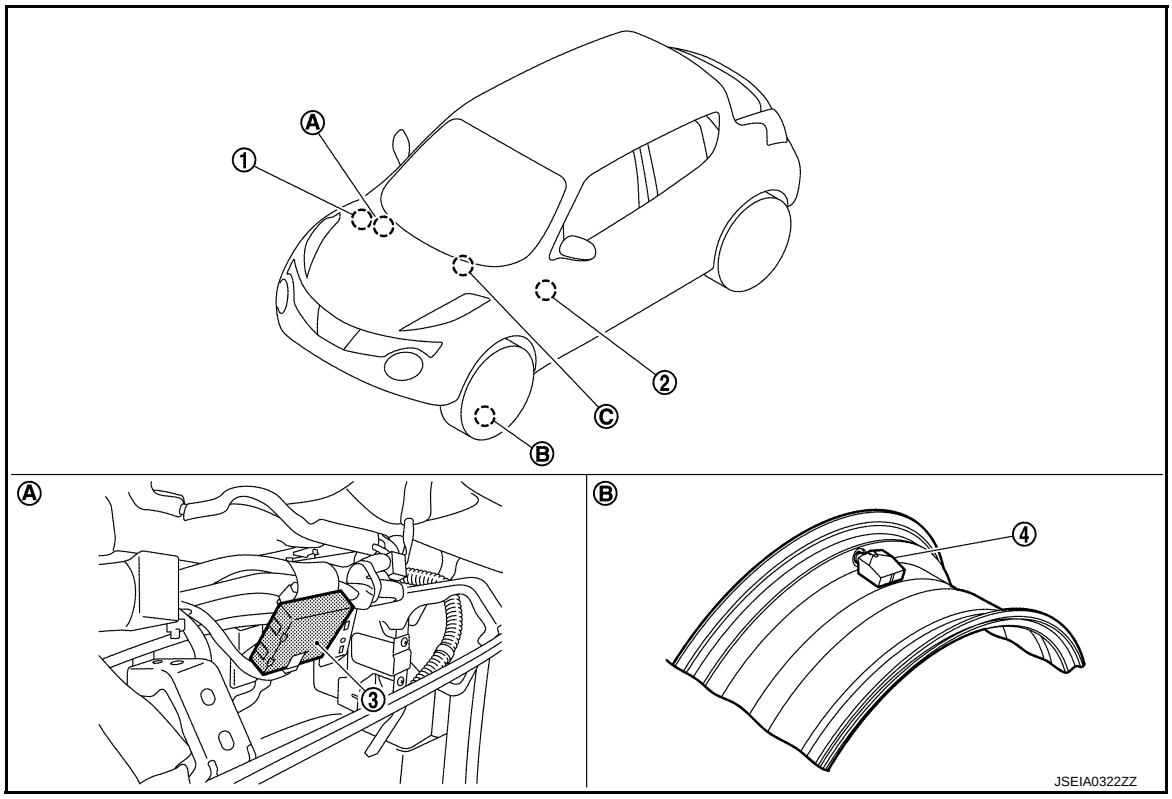
Tool name	Description
Power tool  PBIC0190E	Loosening bolts and nuts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000007578465



1. ABS actuator and electric unit (control unit)
   Refer to BRC-8, "Component Parts Location".
2. BCM
   Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location" (With intelligent key system), BCS-83, "BODY CONTROL SYSTEM : Component Parts Location" (Without intelligent key system).
3. Remote keyless entry receiver (tire pressure receiver)
4. Tire pressure sensor

A. View with the glove box assembly removed
B. Wheel
C. Low tire pressure warning lamp, information display (in combination meter)

Component Description

INFOID:0000000007578466

Component parts	Function
BCM (Body Control Module)	WT-7, "BCM".
Tire pressure sensor	WT-7, "Tire Pressure Sensor".
Tire pressure receiver	WT-7, "Tire Pressure Receiver".
Turn signal lamp	ID registration of each wheel has been completed, turn signal lamp flashes.
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)

Component parts	Function
Low tire pressure warning lamp	WT-8, "System Description"
Information display	WT-7, "Information Display"

BCM

INFOID:0000000007578467

The BCM reads the air pressure signal received by the tire pressure receiver, and controls the low tire pressure warning lamp operation. It also has a judgment function to detect a system malfunction.

Tire Pressure Sensor

INFOID:0000000007578468

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

Tire Pressure Receiver

INFOID:0000000007578469

- The tire pressure receiver is incorporated into remote keyless entry receiver.
- The tire pressure receiver receives the air pressure signal transmitted by the tire pressure sensor in each wheel.

Information Display

INFOID:0000000007812881

The vehicle information display is shown when a low tire pressure warning lamp signal is transmitted from BCM to combination meter via CAN communication.

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

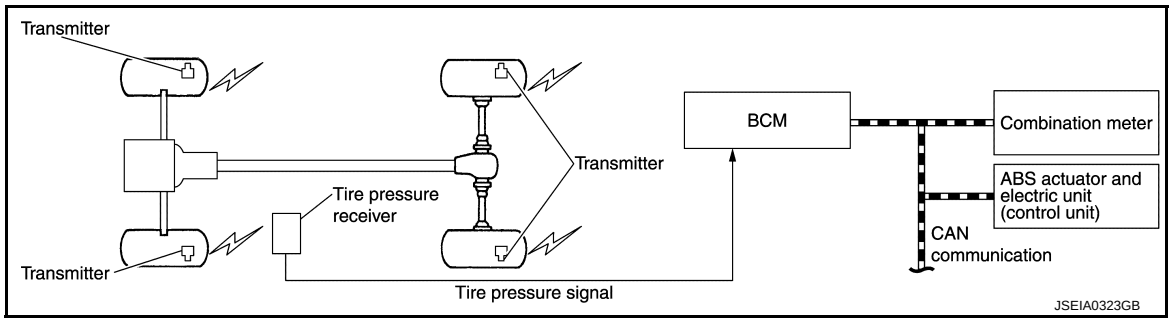
SYSTEM

System Description

INFOID:0000000007578470

- During driving, the TPMS (Tire Pressure Monitoring System) receives the signal transmitted from tire pressure sensor installed in each wheel. The BCM (Body Control Module) of this system has pressure judgment and trouble diagnosis functions. When the tire pressure monitoring system detects low inflation pressure or another unusual symptom, the low tire pressure warning lamps in the combination meter comes on.
- If the tire pressure is less than the specified value, the low tire pressure warning lamp illuminates that the tire pressure is less than the specified value.
- Activates the TPMS (Tire Pressure Monitoring System) when the vehicle speed is 40 km/h (25 MPH) or more.

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)

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

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)
COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000007806537

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

×: Applicable item

System	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
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 conditioning system	AIR CONDITONER		×	×*
• Intelligent Key system • Engine start system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NVIS - NATS	IMMU	×	×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	
Theft warning alarm	THEFT ALM	×	×	×
RAP	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

NOTE:

*: For models with automatic A/C, this diagnosis mode is not used.

FREEZE FRAME DATA (FFD)

The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power position status of the moment a particular DTC is detected	While turning BCM status from low power consumption mode to normal mode (Power position is “LOCK”*.)
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power position is “OFF”.)
	LOCK>ACC		While turning power position from “LOCK”* *to “ACC”
	ACC>ON		While turning power position from “ACC” to “IGN”
	RUN>ACC		While turning power position from “RUN” to “ACC” (Vehicle is stopping and selector lever is except P position.)
	CRANK>RUN		While turning power position from “CRANKING” to “RUN” (From cranking up the engine to run it)
	RUN>URGENT		While turning power position from “RUN“ to “ACC” (Emergency stop operation)
	ACC>OFF		While turning power position from “ACC” to “OFF”
	OFF>LOCK		While turning power position from “OFF” to “LOCK”*
	OFF>ACC		While turning power position from “OFF” to “ACC”
	ON>CRANK		While turning power position from “IGN” to “CRANKING”
	OFF>SLEEP		While turning BCM status from normal mode (Power position is “OFF”.) to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode (Power position is “LOCK”*.) to low power consumption mode
	LOCK		Power position is “LOCK”*
	OFF		Power position is “OFF” (Ignition switch OFF)
	ACC		Power position is “ACC” (Ignition switch ACC)
	ON		Power position is “IGN” (Ignition switch ON with engine stopped)
	ENGINE RUN		Power position is “RUN” (Ignition switch ON with engine running)
	CRANKING		Power position is “CRANKING” (At engine cranking)
IGN Counter	0 - 39	The number of times that ignition switch is turned ON after DTC is detected • The number is 0 when a malfunction is detected now. • The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.	

NOTE:

*: Power position shifts to “LOCK” from “OFF”, when ignition switch is in the OFF position, selector lever is in the P position (A/T models and CVT models), and any of the following conditions are met.

- Closing door
- Opening door
- Door is locked using door request switch
- Door is locked using Intelligent Key

The power position shifts to “ACC” when the push-button ignition switch (push switch) is pushed at “LOCK”.

AIR PRESSURE MONITOR

AIR PRESSURE MONITOR : CONSULT Function (BCM - AIR PRESSURE MONITOR)

INFOID:0000000007578472

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Work Support	Components can be quickly and accurately adjusted.

SELF DIAGNOSTIC RESULT

Refer to BCS-58, "DTC Index".

DATA MONITOR MODE

Monitor item (Unit)	Remarks
AIR PRESS FL (kPa, kg/cm2 or Psi)	Tire pressure
AIR PRESS FR (kPa, kg/cm2 or Psi)	
AIR PRESS RR (kPa, kg/cm2 or Psi)	
AIR PRESS RL (kPa, kg/cm2 or Psi)	
ID REGST FL1 (Yet, Done)	Registration ID
ID REGST FR1 (Yet, Done)	
ID REGST RR1 (Yet, Done)	
ID REGST RL1 (Yet, Done)	
WARNING LAMP (On/Off)	Low tire pressure warning lamp
BUZZER (On/Off)	**NOTE:** This item is displayed, but cannot be use this item.

ACTIVE TEST MODE

NOTE:

After completing the work below, perform an active test.

1. Check ID registration state and perform self-diagnosis.
2. Erase the self-diagnosis result history.

Item	Description
WARNING LAMP	Low tire pressure warning lamp can be turned ON arbitrarily.
ID REGIST WARNING	**NOTE:** Displayed but not used in TPMS.
RUN FLAT TIRE W/L	**NOTE:** Displayed but not used in TPMS.
RUN FLAT/T WARN BUZZER	**NOTE:** Displayed but not used in TPMS.
FLASHER	Turn signal lamps can be turned ON arbitrarily.
HORN	This test is able to check to check that the horn sounds.

WORK SUPPORT

Item	Description
ID READ	Registered tire pressure sensor ID can be displayed.
ID REGIST	Tire pressure sensor ID can be registered.

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000007806538

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

×: Applicable item

System	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp control	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 conditioning system	AIR CONDITONER		×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NATS	IMMU	×		×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	
Theft warning alarm	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	×
Signal buffer system	SIGNAL BUFFER		×	×
Panic alarm	PANIC ALARM			×
TPMS	AIR PRESSUE MONITOR	×	×	×

AIR PRESSURE MONITOR

AIR PRESSURE MONITOR : CONSULT Function (BCM - AIR PRESSURE MONI-

TOR)

INFOID:0000000007578474

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Work Support	Components can be quickly and accurately adjusted.

SELF DIAGNOSTIC RESULT

Refer to BCS-122, "DTC Index".

DATA MONITOR MODE

Monitor item (Unit)	Remarks
AIR PRESS FL (kPa, kg/cm2 or Psi)	Tire pressure
AIR PRESS FR (kPa, kg/cm2 or Psi)	
AIR PRESS RR (kPa, kg/cm2 or Psi)	
AIR PRESS RL (kPa, kg/cm2 or Psi)	
ID REGST FL1 (Yet, Done)	Registration ID
ID REGST FR1 (Yet, Done)	
ID REGST RR1 (Yet, Done)	
ID REGST RL1 (Yet, Done)	
WARNING LAMP (On/Off)	Low tire pressure warning lamp
BUZZER (On/Off)	**NOTE:** This item is displayed, but cannot be use this item.

ACTIVE TEST MODE

NOTE:

After completing the work below, perform an active test.

1. Check ID registration state and perform self-diagnosis.
2. Erase the self-diagnosis result history.

Item	Description
WARNING LAMP	Low tire pressure warning lamp can be turned ON arbitrarily.
ID REGIST WARNING	**NOTE:** Displayed but not used in TPMS.
RUN FLAT TIRE W/L	**NOTE:** Displayed but not used in TPMS.
FLASHER	Turn signal lamps can be turned ON arbitrarily.
RUN FLAT TIRE W/R	**NOTE:** Displayed but not used in TPMS.

WORK SUPPORT

Item	Description
ID READ	Registered tire pressure sensor ID can be displayed.
ID REGIST	Tire pressure sensor ID can be registered.

ECU DIAGNOSIS INFORMATION

BCM

WITH INTELLIGENT KEY

WITH INTELLIGENT KEY : List of ECU Reference

INFOID:0000000007578475

ECU	Reference
BCM	BCS-35, "Reference Value"
	BCS-56, "Fail-safe"
	BCS-57, "DTC Inspection Priority Chart"
	BCS-58, "DTC Index"

WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY : List of ECU Reference

INFOID:0000000007578476

ECU	Reference
BCM	BCS-108, "Reference Value"
	BCS-121, "Fail-safe"
	BCS-122, "DTC Inspection Priority Chart"
	BCS-122, "DTC Index"

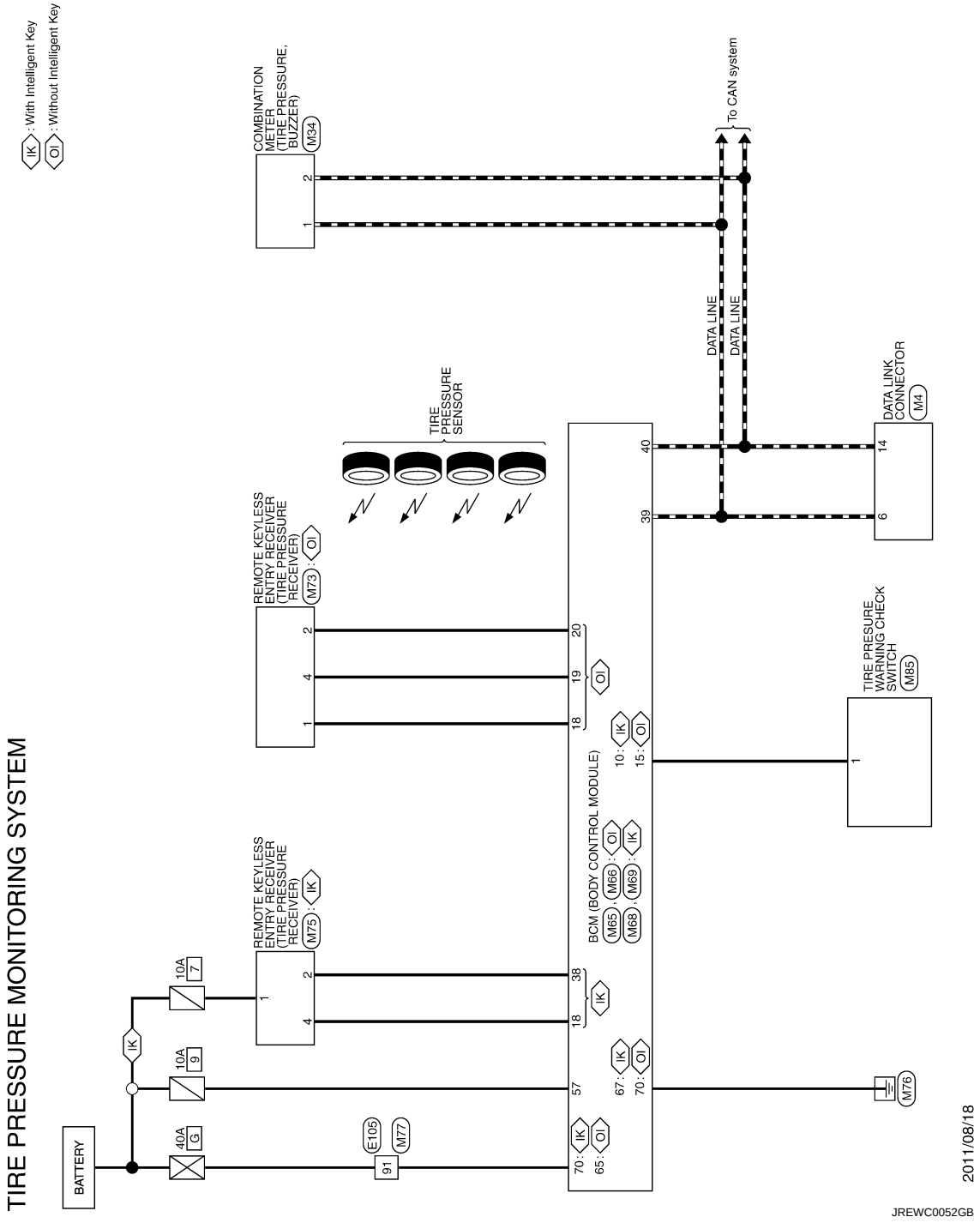
WIRING DIAGRAM

TIRE PRESSURE MONITORING SYSTEM

Wiring Diagram

INFOID:0000000007578477

For connector terminal arrangements, harness layouts, and alphabets in a ⬡ (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000007578478

DETAILED FLOW

1.COLLECT THE INFORMATION FROM THE CUSTOMER

It is also important to clarify customer concerns before starting the inspection. Reproduce the symptom, and understand it fully. Interview the customer about the concerns carefully. In some cases, it is necessary to check the symptoms by driving the vehicle with the customer.

CAUTION:

Customers are not professionals. Never assume“maybe the customer means...” or “maybe the customer mentioned this symptom.

>> GO TO 2.

2.BASIC INSPECTION

1. Turn the ignition switch ON.
   CAUTION:
   Never start the engine.
2. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-50, "Tire Air Pressure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Inspect or repair the tires or wheels.

3.CHECK LOW TIRE PRESSURE WARNING LAMP

Check low tire pressure warning lamp display.

Does not low tire pressure warning lamp turn OFF?

YES >> GO TO 4.
NO >> GO TO 8.

4.PERFORM SELF-DIAGNOSIS

With CONSULT

Perform “SELF-DIAG RESULTS”.

Is any DTC detected?

YES >> Record or print DTC and freeze frame data (FFD). GO TO 5.
NO >> GO TO 7.

5.RECHECK THE SYMPTOM

With CONSULT

Perform “DTC CONFIRMATION PROCEDURE” with recorded DTC.

If two or more DTCs are detected, refer to BCS-58, "DTC Index" (With intelligent key system), BCS-122, "DTC Index" (Without intelligent key system) and determine trouble diagnosis order.

Is any DTC detected?

YES >> GO TO 6.
NO >> GO TO 7.

6.REPAIR OR REPLACE ERROR-DETECTED PART

- Repair or replace error-detected parts.
- Reconnect part or connector after repairing or replacing.
- When DTC is detected, erase self-diagnostic result in “AIR PRESSURE MONITOR” of “BCM”.

>> GO TO 9.

7. CRUISE FOR SYMPTOM CHECK

1. Start the engine.
2. Drive for 10 minutes at a speed of 40 km/h (25 MPH) or more, then stop the vehicle.

CAUTION:
Total time driving at a speed of 40 km/h (25 MPH) or more must be 10 minutes.

>> GO TO 8.

8. IDENTIFY ERROR-DETECTED SYSTEM BY SYMPTOM DIAGNOSIS

Estimate error-detected system based on symptom diagnosis.

>> GO TO 10.

9. FINAL CHECK (WHEN DTC WAS DETECTED)

With CONSULT

Perform “DTC CONFIRMATION PROCEDURE” with displayed DTC.

Is any DTC detected?

YES >> GO TO 6.
NO >> INSPECTION END

10. FINAL CHECK (WHEN SYMPTOM OCCURRED)

Make sure that the symptom is not detected.

Does symptom remain?

YES >> GO TO 8.
NO >> INSPECTION END

ADDITIONAL SERVICE WHEN REPLACING BCM

Description

INFOID:0000000007578479

When replacing BCM, tire pressure sensor ID registration is required.

Work Procedure

INFOID:0000000007578480

1.PERFORM TIRE PRESSURE SENSOR ID REGISTRATION

Perform tire pressure sensor ID registration.

>> Refer to WT-21, "Work Procedure".

TIRE PRESSURE SENSOR ID REGISTRATION

Description

INFOID:0000000007578481

This procedure must be done after replacing or rotating wheels, replacing tire pressure sensor or BCM.

Work Procedure

INFOID:0000000007578482

1. TIRE PRESSURE SENSOR ID REGISTRATION 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.**

With CONSULT

1. Display the “WORK SUPPORT” screen and select “ID REGIST”.

Is the tire pressure sensor activation tool (J-45295) used for the tire pressure sensor ID registration procedure?

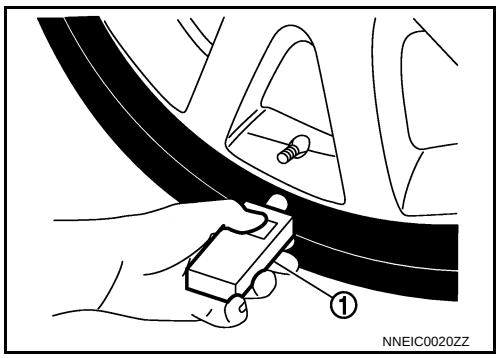
YES >> GO TO 2.
NO >> GO TO 3.

2. TIRE PRESSURE SENSOR ID REGISTRATION PROCEDURE (WITH TIRE PRESSURE SENSOR ACTIVATION TOOL)

1. Turn the ignition switch ON.
2. Select the start button on the “ID REGIST” screen.
3. Contact the tire pressure sensor activation tool (J-45295) (1) to the side of the tire at the location to the tire pressure sensor.
4. Press and hold the tire pressure sensor activation tool button while pushing the tool to the tire surface. (approximately for 5 seconds)

   CAUTION:

   Perform the ID registration procedure starting from the vehicle front left wheel, then repeat the procedure in the order of the front right wheel, rear right wheel, and rear left wheel.



5. When ID registration is completed, check the following pattern at each wheel.

Sequence	ID registration position	Turn signal lamp	CONSULT
1	Front left wheel	2 blinks	“Red” ↓ “Green”
2	Front right wheel		
3	Rear right wheel		
4	Rear left wheel		

6. After the ID registration procedure for all wheels is completed, press “END” to end ID registration, and check that ID registration for all wheels is completed.

Is the check result normal?

YES >> ID registration END.
NO >> Refer to WT-39, "Diagnosis Procedure".

3. TIRE PRESSURE SENSOR ID REGISTRATION PROCEDURE (WITHOUT TIRE PRESSURE SENSOR ACTIVATION TOOL)

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, 31)
Rear RH	200 (2.0, 29)
Rear LH	180 (1.8, 26)

2. Drive the vehicle at a speed at more than 40 km/h (25 MPH) for 3 minutes or more, then perform the tire pressure sensor ID registration procedure.
3. After ID registration for all wheels is completed, press “END” to end ID registration.

ID registration position	CONSULT
Front LH	“Red” ↓ “Green”
Front RH	
Rear RH	
Rear LH	

4. Adjust the tire pressures for all wheels to the specified value. Refer to WT-50, "Tire Air Pressure".

Is ID registrations for all wheels completed?

YES >> ID registration END.
NO >> Performs trouble-diagnosis of the Tire Pressure Monitoring System (TPMS). BCS-58, "DTC Index" (With intelligent key system), BCS-122, "DTC Index" (Without intelligent key system).

DTC/CIRCUIT DIAGNOSIS

C1704, C1705, C1706, C1707 LOW TIRE PRESSURE

DTC Logic

INFOID:0000000007578483

DTC DETECTION LOGIC

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

*:182.7 kPa (1.9 kg/cm^2, 26 psi) [Standard air pressure is for 230 kPa (2.3 kg/cm^2,33 psi) vehicles.]
*:189.6 kPa (1.9 kg/cm^2, 27 psi) [Standard air pressure is for 240 kPa (2.4 kg/cm^2,35 psi) vehicles.]
*:196.5 kPa (2.0 kg/cm^2, 28 psi) [Standard air pressure is for 250 kPa (2.5 kg/cm^2,36 psi) vehicles.]

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

With CONSULT

1. Turn the ignition switch ON.
   CAUTION:
   Never start the engine.
2. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-50, "Tire Air Pressure".
3. Perform self-diagnosis for “AIR PRESSURE MONITOR”.

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

YES >> Proceed to WT-23, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007578484

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 >> GO TO 2.
NO >> Replace applicable tire pressure sensor. Refer to WT-44, "WITH INTELLIGENT KEY : Removal and Installation" (With intelligent key), WT-47, "WITHOUT INTELLIGENT KEY : Removal and Installation" (Without intelligent key).

2.CHECK TIRE PRESSURE

Check the air pressure of all wheels. Refer to WT-50, "Tire Air Pressure".

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

Is the inspection result normal?

YES >> Perform “DTC CONFIRMATION PROCEDURE” (self-diagnosis) again. Refer to WT-23, "DTC Logic".
NO >> After adjusting the air pressure, GO TO 3

3.CHECK TIRE PRESSURE SIGNAL

With CONSULT

1. Select “DATA MONITOR” in “AIR PRESSURE MONITOR” of “BCM”.
2. Check that the tire pressures match the standard value.

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

C1708, C1709, C1710, C1711 TIRE PRESSURE SENSOR

DTC Logic

INFOID:0000000007578485

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
C1708	[NO DATA] FL	Tire pressure data signal from the front LH wheel tire pressure sensor cannot be detected.	• Harness or connector (Tire pressure receiver, BCM) • Tire pressure sensor ID registration incomplete • Tire pressure sensor • Tire pressure sensor battery voltage • Driving in area where radio wave cannot be transmitted/received.
C1709	[NO DATA] FR	Tire pressure data signal from the front RH wheel tire pressure sensor cannot be detected.	
C1710	[NO DATA] RR	Tire pressure data signal from the rear RH wheel tire pressure sensor cannot be detected.	
C1711	[NO DATA] RL	Tire pressure data signal from the rear LH wheel tire pressure sensor cannot be detected.	

DTC CONFIRMATION PROCEDURE

1.TIRE PRESSURE SENSOR ID REGISTRATION

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

>> GO TO 2.

2.PERFORM DTC CONFIRMATION

With CONSULT

1. Drive the vehicle at 40 km/h (25 MPH) or more for 10 minutes.
   CAUTION:
   Total time driving at a speed of 40 km/h (25 MPH) or more must be 10 minutes.
   NOTE:
   Avoid driving in area where radio wave cannot be transmitted/received.
2. Stop the vehicle.
3. Perform self-diagnosis for “AIR PRESSURE MONITOR” of “BCM”.

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

YES >> Proceed to WT-25, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007578486

1.CHECK TIRE PRESSURE SIGNAL

With CONSULT

1. Select “DATA MONITOR” in “AIR PRESSURE MONITOR” of “BCM”.
2. Check the values that are displayed for “AIR PRESS FL”, “AIR PRESS FR”, “AIR PRESS RR”, and “AIR PRESS RL”.

Are all tire pressures displayed 0 kPa (psi)?

YES (With intelligent key system)>>GO TO 2.
YES (Without intelligent key system)>>GO TO 4.
NO >> Replace applicable tire pressure sensor. Refer to WT-44, "WITH INTELLIGENT KEY : Removal and Installation" (With intelligent key system), WT-47, "WITHOUT INTELLIGENT KEY : Removal and Installation" (Without intelligent key system).

2.CHECK RECEIVER CIRCUIT

1. Turn the ignition switch OFF.
2. Check 10A fuse (#7).
   CAUTION:
   Check that the fuse is not blown, that there are no other abnormalities, and that the fuse is of the specified capacity.
3. Disconnect BCM harness connector and tire pressure receiver harness connector.

4. Check the continuity between BCM harness connector and tire pressure receiver harness connector.

BCM		Tire pressure receiver		Continuity
Connector	Terminal	Connector	Terminal	
M68	18	M75	4	Existed
	38		2	

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

BCM		—	Continuity
Connector	Terminal		
M68	18	Ground	Not existed
	38		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace error-detected parts.

3.CHECK TIRE PRESSURE RECEIVER POWER SUPPLY CIRCUIT

1. Connect tire pressure receiver harness connector.
2. Check the voltage between tire pressure receiver harness connector and the ground when the ignition switch is turned ON and OFF.

CAUTION:
Never start the engine.

Tire pressure receiver		—	Voltage
Connector	Terminal		
M75	1	Ground	9 – 16 V

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace error-detected parts.

4.CHECK RECEIVER CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect BCM harness connector and tire pressure receiver harness connector.
3. Check the continuity between BCM harness connector and tire pressure receiver harness connector.

BCM		Tire pressure receiver		Continuity
Connector	Terminal	Connector	Terminal	
M65	18	M73	1	Existed
	19		4	
	20		2	

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

BCM		—	Continuity
Connector	Terminal		
M65	18	Ground	Not existed
	19		
	20		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace error-detected parts.

5.CHECK TIRE PRESSURE RECEIVER POWER SUPPLY CIRCUIT

1. Connect tire pressure receiver harness connector.
2. Check the voltage between tire pressure receiver harness connector and the ground when the ignition switch is turned ON and OFF.

CAUTION:
Never start the engine.

Tire pressure receiver		—	Voltage
Connector	Terminal		
M73	1	Ground	9 – 16 V

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace the BCM.

6. CHECK TIRE PRESSURE SIGNAL

Check the function tire pressure receiver. Refer to DLK-79, "Component Function Check" (With intelligent key system), DLK-208, "Component Function Check" (Without intelligent key system).

Is the inspection result normal?

YES >> Replace the BCM.
NO >> Repair or replace error-detected parts.

C1716, C1717, C1718, C1719 TIRE PRESSURE SENSOR

DTC Logic

INFOID:0000000007578487

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 tire pressure sensor.	• Excessive tire pressure • Tire pressure sensor ID registration incomplete • Tire pressure sensor
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 DTC CONFIRMATION

With CONSULT

1. Turn the ignition switch ON.
   CAUTION:
   Never start the engine.
2. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-50, "Tire Air Pressure".
   CAUTION:
   If the tire pressure before adjustment is close to the standard, reduce the tire pressure, and then with the ignition switch ON, adjust the tire pressure again so that it is within the standard.
3. Perform self-diagnosis in “AIR PRESSURE MONITOR” of “BCM”.

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

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

2.CHECK LOW TIRE PRESSURE WARNING LAMP

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

Is the inspection result normal?

YES >> After erase DTC, INSPECTION END.
NO >> Leave the ignition switch ON and proceed to WT-28, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000007578488

1.PERFORM TIRE PRESSURE SENSOR ID REGISTRATION

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

Is tire pressure sensor ID registration completed?

YES >> GO TO 2.
NO >> Replace tire pressure sensor. Refer to WT-44, "WITH INTELLIGENT KEY : Removal and Installation" (With intelligent key system), WT-47, "WITHOUT INTELLIGENT KEY : Removal and Installation" (Without intelligent key system).

2.CHECK TIRE PRESSURE SIGNAL

With CONSULT

1. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-50, "Tire Air Pressure".
2. Stop the vehicle.
3. Select “DATA MONITOR” in “AIR PRESSURE MONITOR” of “BCM”.

4. Within 15 minutes after vehicle stopped, read the values that are displayed for “AIR PRESS FL”, “AIR PRESS FR”, “AIR PRESS RR”, and “AIR PRESS RL”.

Which tire pressures is displayed as 438.60 kPa (4.47 kg/cm^2, 63.60 psi)?

YES >> Replace tire pressure sensor the tire pressure as 438.60 kPa (4.47 kg/cm^2, 63.60 psi) displayed. Refer to WT-44, "WITH INTELLIGENT KEY : Removal and Installation" (With intelligent key system), WT-47, "WITHOUT INTELLIGENT KEY : Removal and Installation" (Without intelligent key system).

NO >> Perform “DTC CONFIRMATION PROCEDURE” (self-diagnosis) again. Refer to WT-28, "DTC Logic".

C1729 VEHICLE SPEED SIGNAL

DTC Logic

INFOID:0000000007578489

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes	
C1729	VHCL SPEED SIG ERR	Vehicle speed signal not detected.	Without intelligent key system	• CAN communication • BCM • Combination meter
			With intelligent key system	• CAN communication • BCM • ABS actuator and electric unit (control unit) malfunction

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION PROCEDURE

With CONSULT

1. Drive the vehicle.
2. Stop the vehicle.
3. Perform self-diagnosis in “AIR PRESSURE MONITOR” of “BCM”.

Is DTC “C1729” detected?

YES (With intelligent key system)>>Proceed to WT-30, "Diagnosis Procedure (With Intelligent Key System)".
YES (Without intelligent key system)>>Proceed to WT-30, "Diagnosis Procedure (Without Intelligent Key System)".
NO >> INSPECTION END

Diagnosis Procedure (With Intelligent Key System)

INFOID:0000000007578490

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

With CONSULT

Perform self-diagnosis for “ABS”.

Is any DTCs detected?

YES >> Check the DTCs.
NO >> GO TO 2.

2.CHECK BCM INPUT/OUTPUT SIGNAL

Check BCM input/output signal values. Refer to BCS-35, "Reference Value".

Is the inspection result normal?

YES >> Check pin terminal and connection of each harness connector for malfunctioning conditions.
NO >> Replace the BCM. Refer to BCS-80, "Removal and Installation".

Diagnosis Procedure (Without Intelligent Key System)

INFOID:0000000007578491

1.PERFORM COMBINATION METER SELF-DIAGNOSIS

With CONSULT

Perform self-diagnosis for “METER/M&A”.

Is any DTCs detected?

YES >> Check the DTCs.
NO >> GO TO 2.

2.CHECK BCM INPUT/OUTPUT SIGNAL

Check BCM input/output signal values. Refer to BCS-108, "Reference Value".

Is the inspection result normal?

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

NO >> Replace the BCM. Refer to BCS-141, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000007578492

1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground. Refer to BCS-73, "Diagnosis Procedure" (With intelligent key system), BCS-134, "Diagnosis Procedure" (Without intelligent key system).

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair open circuit or short to ground or short to power in harness or connectors.

SYMPTOM DIAGNOSIS

TPMS

Symptom Table

INFOID:0000000007578493

LOW TIRE PRESSURE WARNING LAMP SYMPTOM CHART

Diagnosis items	Symptom (Ignition switch ON)	Low tire pressure warning lamp	Cause	Action
Low tire pressure warning lamp	The low tire pressure warning lamp illuminates for 1 second, then turns OFF.	 ON 1 sec > stays OFF SEIA0592E	Wake-up operation for all tire pressure sensors at wheels is completed.	No system malfunctions
	The low tire pressure warning lamp 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-50, "Tire Air Pressure".

Diagnosis items	Symptom (Ignition switch ON)	Low tire pressure warning lamp	Cause	Action
Low tire pressure warning lamp	The low tire pressure warning lamp repeats blinking at 0.5-second intervals for 1 minute, and then stays illuminated.	 Blinks 1 min ON 0.5 sec > OFF 0.5 sec and stays ON SEIA0788E	The 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 WT-10, "AIR PRESSURE MONITOR : CONSULT Function (BCM - AIR PRESSURE MONITOR)" (With intelligent key system), WT-13, "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

Description

INFOID:0000000007578494

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

NOTE:

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

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

Diagnosis Procedure

INFOID:0000000007578495

1.CHECK LOW TIRE PRESSURE WARNING LAMP SIGNAL

With CONSULT

1. Turn the ignition switch ON.
   CAUTION:
   Never start the engine.
2. Select “ACTIVE TEST” in “AIR PRESSURE MONITOR” of “BCM”.
3. Touch “WARNING LAMP” to turn ON the low tire pressure warning lamp.

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

YES >> GO TO 2.
NO >> GO TO 3.

2.CHECK LOW TIRE PRESSURE WARNING LAMP OPERATION

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

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-43, "Intermittent Incident".
NO >> Replace the BCM. Refer to BCS-80, "Removal and Installation" (With intelligent key system), BCS-141, "Removal and Installation" (Without intelligent key system).

3.CHECK COMBINATION METER POWER SUPPLY CIRCUIT

Perform the trouble diagnosis for combination meter power supply circuit. Refer to MWI-42, "COMBINATION METER : Diagnosis Procedure".

Is the inspection result normal?

YES-1 >> INSPECTION END
NO >> Repair or replace error-detected parts.

LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN OFF

Description

INFOID:0000000007578496

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

Diagnosis Procedure

INFOID:0000000007578497

1.CHECK TIRE PRESSURE

1. Turn the ignition switch ON.
   CAUTION:
   Never start the engine.
2. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-50, "Tire Air Pressure".

Is the inspection result normal?

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

2.CHECK LOW TIRE PRESSURE WARNING LAMP

Check low tire pressure warning lamp display.

Does not low tire pressure warning lamp turn OFF?

YES >> GO TO 3.
NO >> INSPECTION END

3.CHECK BCM

With CONSULT
Perform “SELF-DIAG RESULTS” in “AIR PRESSURE MONITOR” of “BCM”.

Is any DTC detected?

YES >> Check the DTC. Refer to BCS-58, "DTC Index" (With intelligent key system), BCS-122, "DTC Index" (Without intelligent key system).
NO >> GO TO 4.

4.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Perform the trouble diagnosis for power supply and ground circuit. Refer to BCS-73, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-80, "Removal and Installation".
NO >> Repair or replace error-detected parts.

LOW TIRE PRESSURE WARNING LAMP BLINKS

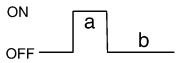
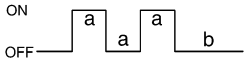
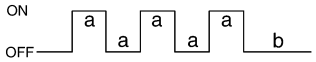
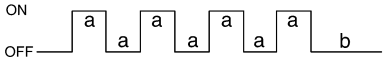
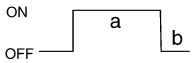
Description

INFOID:0000000007578498

The low tire pressure warning lamp blinks when the ignition 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:0000000007578499

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”. Refer to BCS-58, "DTC Index" (With intelligent key system), BCS-122, "DTC Index" (Without intelligent key system).

TIRE PRESSURE SENSOR ID REGISTRATION CANNOT BE COMPLETED

Description

INFOID:0000000007578500

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:0000000007578501

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 a poor reception. If an ID registration is performed under this condition, the registration may not be completed. In such case, follow the instructions below to improve the radio wave receiving environment.

- Rotate tire by 90°, 180°, or 270°. (This Step is to change tire pressure sensor position.)
- Open the door close to the tire of which ID registration is ongoing.

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

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

All wheels react and ID registration is possible.>>INSPECTION END
Only certain wheel(s) do not react.>>Replace applicable tire pressure sensor. Refer to WT-44, "WITH INTELLIGENT KEY : Removal and Installation" (With intelligent key system), WT-47, "WITHOUT INTELLIGENT KEY : Removal and Installation" (Without intelligent key system).
All wheels do not react.>>Check the tire pressure receiver (Remote keyless entry receiver). Refer to DLK-79, "Component Function Check" (With intelligent key system), DLK-208, "Component Function Check" (Without intelligent key system).

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:0000000007578502

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

Reference page			WT-43, "Exploded View"	WT-43, "Inspection"	WT-41, "Wheel Balance Adjustment"	WT-50, "Tire Air Pressure"	WT-41, "Wheel Balance Adjustment"	—	—	WT-50, "Tire Air Pressure"	NVH in DLN section.	NVH in DLN section.	NVH in FAX and FSU sections.	NVH in RAX and RSU sections.	Refer to TIRE in this chart.	Refer to ROAD WHEEL in this chart.	NVH in FAX, RAX section.	NVH in BR section.	NVH in ST section.
Possible cause and SUSPECTED PARTS			Improper installation, looseness	Out-of-round	Unbalance	Incorrect tire pressure	Uneven tire wear	Deformation or damage	Non-uniformity	Incorrect tire size	PROPELLER SHAFT	DIFFERENTIAL	FRONT AXLE AND FRONT SUSPENSION	REAR AXLE AND REAR SUSPENSION	TIRE	ROAD WHEELS	DRIVE SHAFT	BRAKE	STEERING
Symptom	TIRE	Noise	×	×	×	×	×	×	×		×	×	×	×		×	×	×	×
		Shake	×	×	×	×	×	×		×	×		×	×		×	×	×	×
		Vibration				×				×	×		×	×			×		×
		Shimmy	×	×	×	×	×	×	×	×			×	×		×		×	×
		Judder	×	×	×	×	×	×		×			×	×		×		×	×
		Poor quality ride or handling	×	×	×	×	×	×		×			×		×	×			
	ROAD WHEEL	Noise	×	×	×			×			×	×	×	×	×		×	×	×
		Shake	×	×	×			×			×		×	×	×		×	×	×
		Shimmy, Judder	×	×	×			×					×	×	×			×	×
		Poor quality ride or handling	×	×	×			×					×	×	×				

×: Applicable

PERIODIC MAINTENANCE

ROAD WHEEL

Inspection

INFOID:0000000007578503

APPEARANCE

Check the road wheel for bend, damage, crack or wear.

Wheel Balance Adjustment

INFOID:0000000007578504

PREPARATION BEFORE ADJUSTMENT

Using releasing agent, remove double-faced adhesive tape from the road wheel.

CAUTION:

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

ADJUSTMENT

- The details of the adjustment procedure are different for each model of wheel balancer. Therefore, refer to each instruction manual.
- If a tire balance machine has adhesion balance weight mode settings and drive-in weight mode setting, select and adjust a drive-in weight mode suitable for aluminum wheels.

1. Set road wheel on tire balance machine using the center hole as a guide. Start the tire balance machine.
2. When inner and outer unbalance values are shown on the tire balance machine indicator, multiply outer unbalance value by 5/3 to determine balance weight that should be used. Select the outer balance weight with a value closest to the calculated value above and install to the designated outer position of, or at the designated angle in relation to the road wheel.

   CAUTION:

   - **Never install the inner balance weight before installing the outer balance weight.**
   - **Before installing the balance weight, always to clean the mating surface of the road wheel.**

a. Indicated unbalance value × 5/3 = balance weight to be installed

Calculation example:

23 g (0.81 oz) × 5/3 = 38.33 g (1.35 oz) ⇒ 40 g (1.41 oz) balance weight (closer to calculated balance weight value)

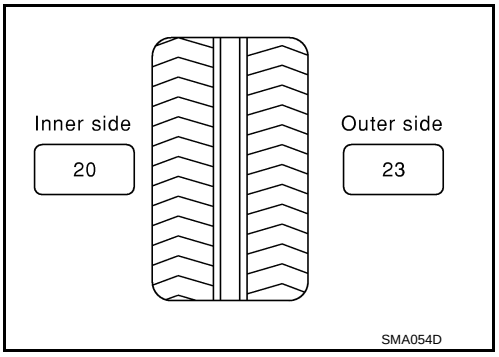
NOTE:

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

Example:

37.4 ⇒ 35 g (1.23 oz)

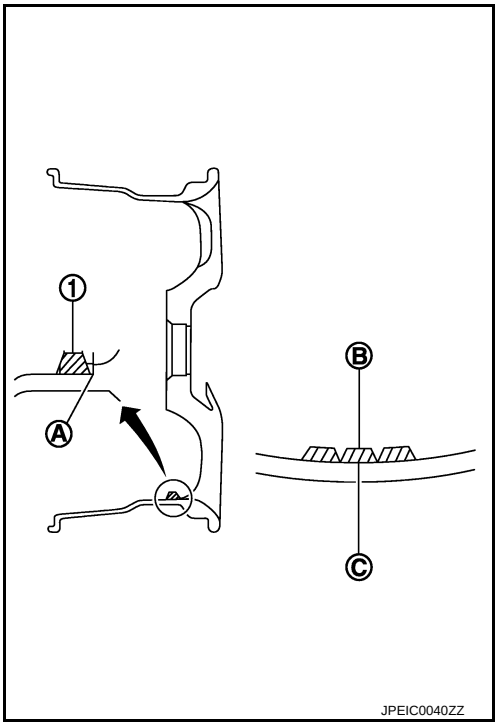
37.5 ⇒ 40 g (1.41 oz)



b. Installed balance weight in the position.

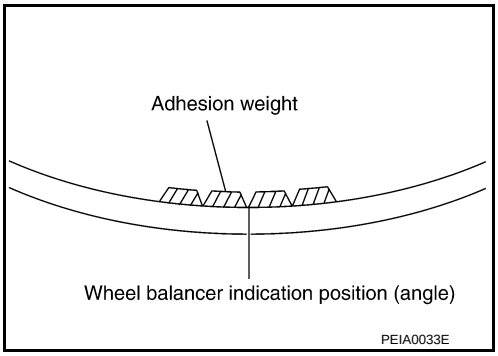
- When installing balance weight (1) to road wheels, set it into the grooved area (A) on the inner wall of the road wheel as shown in the figure so that the balance weight center (B) is aligned with the tire balance machine indication position (angle) (C).

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



c. If calculated balance weight value exceeds 50 g (1.76 oz), install two balance weight sheets in line with each other as shown in the figure.

CAUTION:
Never install one balance weight sheet on top of another.



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

CAUTION:
Never install three or more balance weight.

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

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

Allowable unbalance value

Dynamic (At flange) : Refer to WT-50, "Road Wheel".

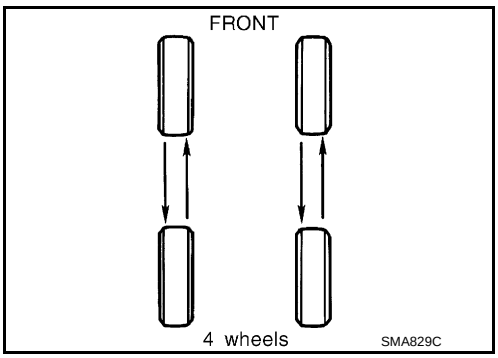
Static (At flange) : Refer to WT-50, "Road Wheel".

Tire Rotation

INFOID:0000000007578505

- Follow the maintenance schedule for tire rotation service intervals. Refer to MA-4, "Explanation of General Maintenance".
- When installing the wheel, tighten wheel nuts to the specified torque. Refer to WT-43, "Exploded View".

CAUTION:
- **Never include the T-type spare tire when rotating the tires.**
- **When installing wheels, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.**
- **Be careful not to tighten wheel nut at torque exceeding the criteria.**
- **Use NISSAN genuine wheel nut.**



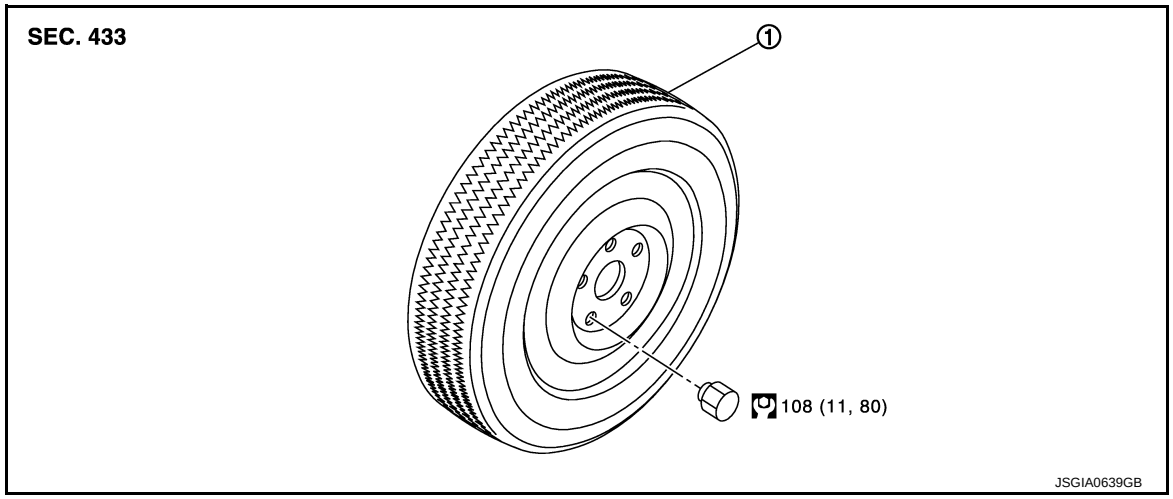
- Perform the ID registration, after tire rotation. Refer to WT-21, "Work Procedure".

REMOVAL AND INSTALLATION

ROAD WHEEL TIRE ASSEMBLY

Exploded View

INFOID:0000000007578506



1. Tire assembly

: N·m (kg-m, ft-lb)

Removal and Installation

INFOID:0000000007578507

REMOVAL

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

INSTALLATION

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

- When replacing or rotating wheels, perform the ID registration. Refer to WT-21, "Work Procedure".

Inspection

INFOID:0000000007578508

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

a. Remove tire from aluminum wheel and mount on a tire balance machine.

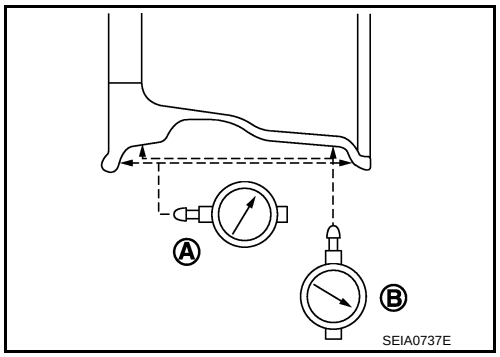
b. Set dial indicator as shown in the figure.

c. Check runout, if the axial runout (A) or radial runout (B) exceeds the limit, replace aluminum wheel.

Limit

Axial runout (A) : **Refer to WT-50, "Road Wheel".**

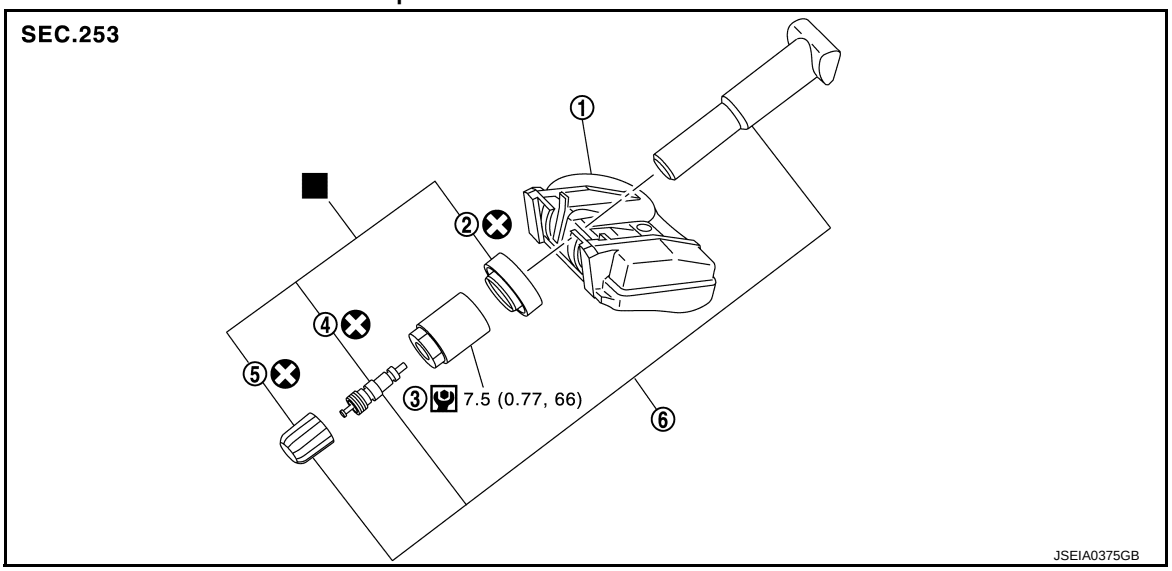
Radial runout (B) : **Refer to WT-50, "Road Wheel".**



TIRE PRESSURE SENSOR
WITH INTELLIGENT KEY

WITH INTELLIGENT KEY : Exploded View

INFOID:0000000007812829



1. Tire pressure sensor
2. Grommet seal
3. Valve nut
4. Valve core
5. Valve cap
6. Valve stem assembly

: N·m (kg-m, in-lb)

: Always replace after every disassembly.

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

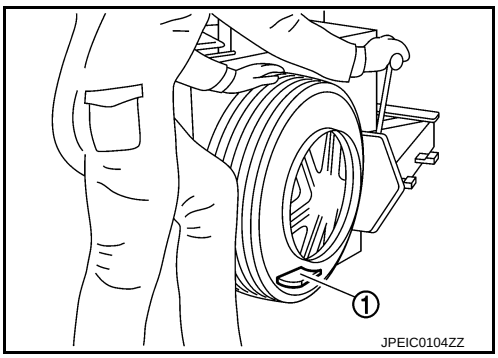
Refer to GI-4, "Components" for symbols not described above.

WITH INTELLIGENT KEY : Removal and Installation

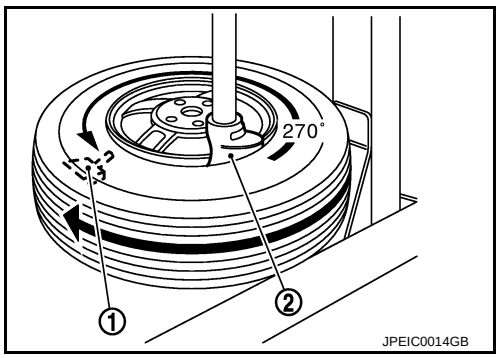
INFOID:0000000007812830

REMOVAL

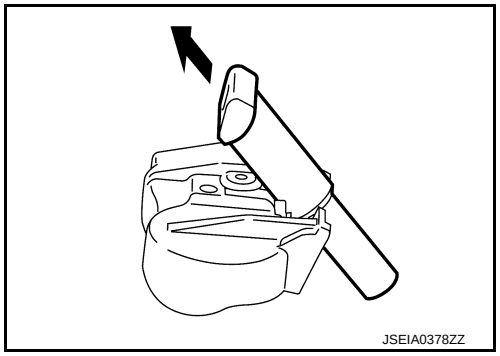
1. Remove tire assembly. Refer to WT-43, "Removal and Installation".
2. Remove valve cap, valve core and then deflate tire.
   NOTE:
   If the tire is reused, apply a matching mark to the position of the tire road wheel valve hole for the purpose of wheel balance adjustment after installation.
3. Remove valve nut retaining tire pressure sensor and allow tire pressure sensor to fall into tire.
4. Use the tire changer and disengage the tire beads.
   CAUTION:
   - **Verify that the tire pressure sensor (1) is at the bottom of the tire while performing the above.**
   - **Be sure not to damage the road wheel or tire pressure sensor.**
5. Apply bead cream or an equivalent to the tire beads.
6. Set tire onto the tire changer turntable so that the tire pressure sensor inside the tire is located close to the road wheel valve hole.



7. Turn tire so that valve hole is at bottom and bounce so that tire pressure sensor (1) is near valve hole. Carefully lift tire onto turntable and position valve hole (and tire pressure sensor) 270 degree from mounting/dismounting head (2).
   CAUTION:
   Be sure not to damage the road wheel and tire pressure sensor.
8. Remove tire pressure sensor from tire.
9. Remove the grommet seal.



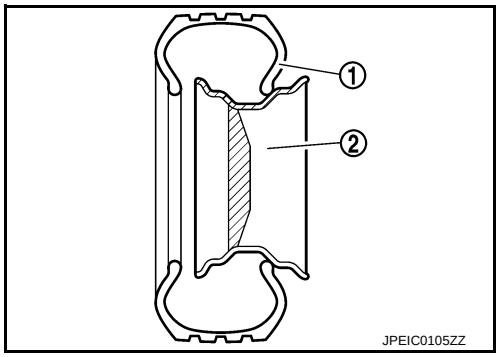
10. Remove valve stem in the direction (⬅).



INSTALLATION

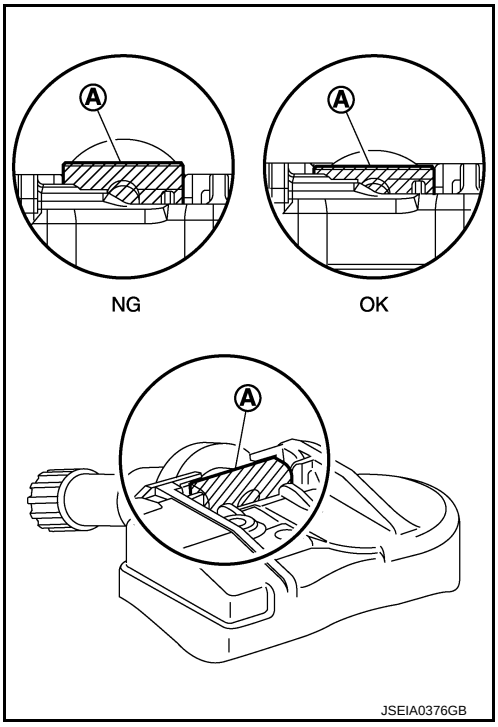
CAUTION:
Replace valve stem assembly if the valve stem has deformations, cracks, damage or corrosion.

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

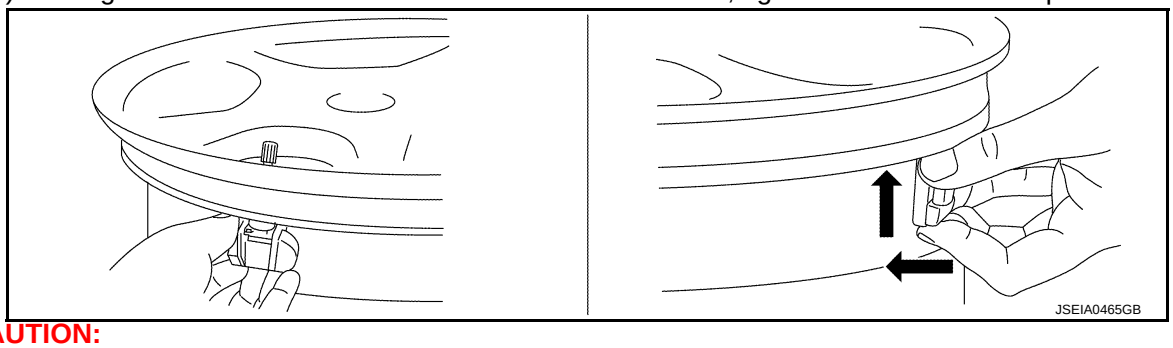


5. Follow the procedure below and install the tire pressure sensor to the road wheel.

a. Check the condition of valve stem before installing tire pressure sensor to road wheel.
CAUTION:
The base of valve stem (A) must be positioned in the groove of the metal plate as shown in the figure.

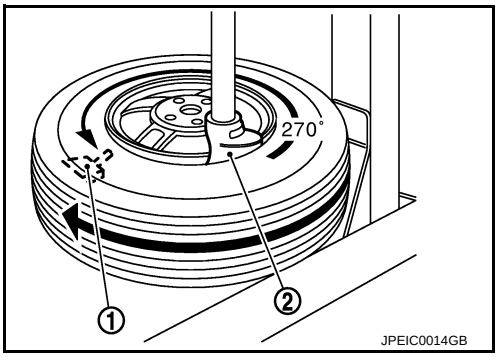


b. Hold tire pressure sensor as shown in the figure, and press the sensor in the direction shown by arrow (⬅) to bring it into absolute contact with road wheel. After this, tighten valve nut to the specified torque.



CAUTION:
- **Never reuse valve core and valve cap.**
- **Check that grommet seal is free of foreign matter.**
- **Check that grommet seal contacts horizontally with road wheel.**
- **Check again that the base of valve stem is positioned in the groove of the metal plate.**
- **Manually tighten valve nut all the way to the wheel. (Never use a power tool to avoid impact.)**

6. Set the tire onto the turntable so that the tire changer arm (2) is at a position approximately 270° from the tire pressure sensor (1).
CAUTION:
Be sure that the arm does not contact the tire pressure sensor.

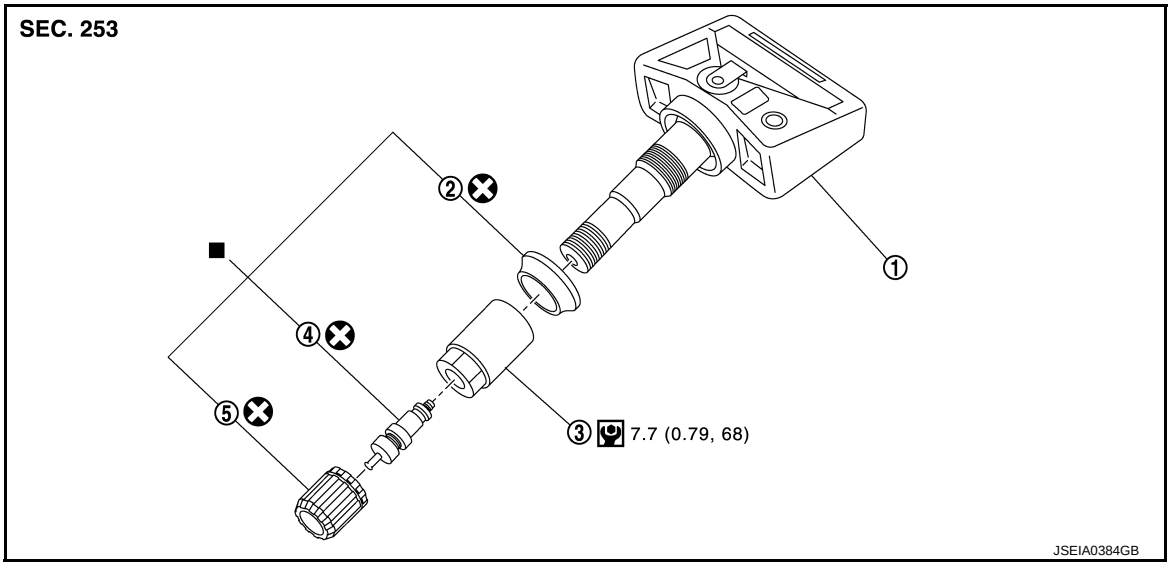


7. Install the tire outer side beads onto the road wheel.
CAUTION:
When installing, check that the tire does not turn together with the road wheel.
8. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-50, "Tire Air Pressure".
NOTE:
Before adding air, align the tire with the position of the matching mark applied at the time of removal.
9. Install tire to the vehicle. Refer to WT-43, "Removal and Installation".
10. Perform tire pressure sensor ID registration. Refer to WT-21, "Work Procedure".

WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY : Exploded View

INFOID:0000000007812831



1. Tire pressure sensor
2. Grommet seal
3. Valve nut
4. Valve core
5. Cap

: N·m (kg-m, in-lb)

: Always replace after every disassembly.

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

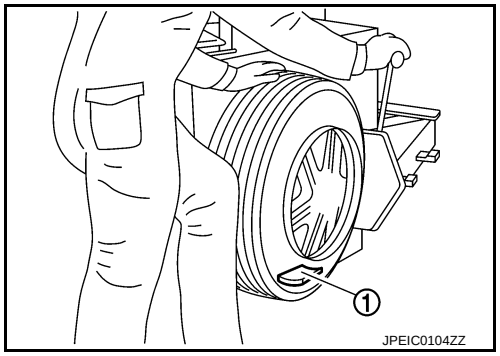
Refer to GI-4, "Components" for symbols not described above.

WITHOUT INTELLIGENT KEY : Removal and Installation

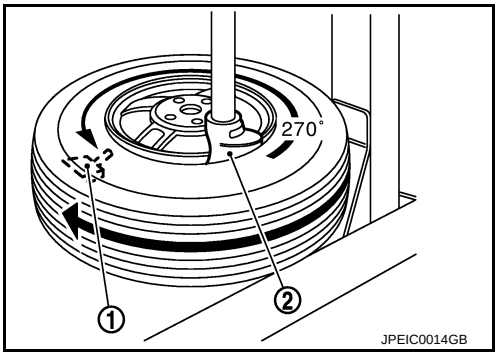
INFOID:0000000007812832

REMOVAL

1. Remove tire assembly. Refer to WT-43, "Removal and Installation".
2. Remove valve cap, valve core and then deflate tire.
   NOTE:
   If the tire is reused, apply a matching mark to the position of the tire road wheel valve hole for the purpose of wheel balance adjustment after installation.
3. Remove valve nut retaining tire pressure sensor and allow tire pressure sensor to fall into tire.
4. Use the tire changer and disengage the tire beads.
   CAUTION:
   - **Verify that the tire pressure sensor (1) is at the bottom of the tire while performing the above.**
   - **Be sure not to damage the road wheel or tire pressure sensor.**
5. Apply bead cream or an equivalent to the tire beads.
6. Set tire onto the tire changer turntable so that the tire pressure sensor inside the tire is located close to the road wheel valve hole.

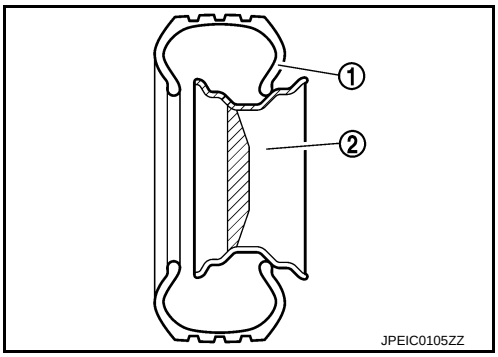


7. Turn tire so that valve hole is at bottom and bounce so that tire pressure sensor (1) is near valve hole. Carefully lift tire onto turntable and position valve hole (and tire pressure sensor) 270 degree from mounting/dismounting head (2).
   CAUTION:
   Be sure not to damage the road wheel and tire pressure sensor.
8. Remove tire pressure sensor from tire.
9. Remove the grommet seal.

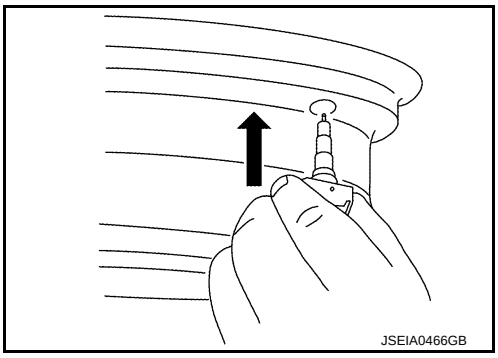


INSTALLATION

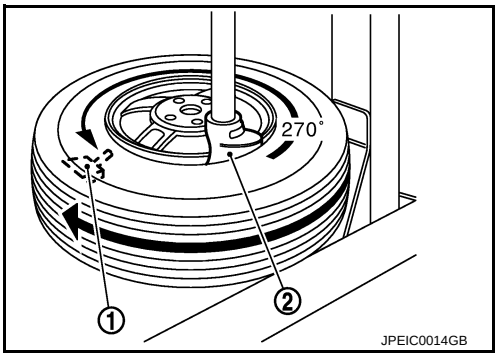
1. Apply bead cream or an equivalent to the tire beads.
2. Install the tire inside beads (1) onto the road wheel (2) in the position shown in the figure.
3. Install grommet seal to the tire pressure sensor.
   CAUTION:
   - **Never reuse grommet seal.**
   - **Insert grommet seal all the way to the base.**



4. Hold tire pressure sensor as shown in the figure, and press the sensor in the direction shown by arrow (⬅) to bring it into absolute contact with valve hole. After this, tighten valve nut to the specified torque.
   CAUTION:
   - **Never reuse valve core and valve cap.**
   - **Check that grommet seal is free of foreign matter.**
   - **Check that grommet seal contacts horizontally with road wheel.**
   - **Manually tighten valve nut all the way to the wheel. (Never use a power tool to avoid impact.)**



5. Set the tire onto the turntable so that the tire changer arm (2) is at a position approximately 270° from the tire pressure sensor (1).
   CAUTION:
   Be sure that the arm does not contact the tire pressure sensor.
6. Install the tire outer side beads onto the road wheel.
   CAUTION:
   When installing, check that the tire does not turn together with the road wheel.
7. Check the tire pressure for all wheels and adjust to the specified value. Refer to WT-50, "Tire Air Pressure".
   NOTE:
   Before adding air, align the tire with the position of the matching mark applied at the time of removal.
8. Install tire to the vehicle. Refer to WT-43, "Removal and Installation".
9. Perform tire pressure sensor ID registration. Refer to WT-21, "Work Procedure".



TIRE PRESSURE RECEIVER

Removal and Installation

INFOID:0000000007578511

REMOVAL

1. Remove the remote keyless entry receiver. (The tire pressure receiver is incorporated into keyless entry receiver.) Refer to DLK-166, "Removal and Installation" (With intelligent key system), DLK-277, "Removal and Installation" (Without intelligent key system).

INSTALLATION

Install in the reverse order of removal.

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Road Wheel

INFOID:0000000007578512

CONVENTIONAL

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

EMERGENCY

Item		Limit
Runout	Axial runout (Average)	Less than 1.2 mm (0.047 in)
	Radial runout (Average)	Less than 1.0 mm (0.039 in)

Tire Air Pressure

INFOID:0000000007578513

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

Item		Standard	
		Front	Rear
P215/55R17 93V	M/T	230 (2.3, 33)	
	CVT(2WD)	250 (2.5, 36)	
	CVT(AWD)	240 (2.4, 35)	
T135/80D16 101M	2WD	420 (4.2, 60)	
T135/90D16 102M	AWD		