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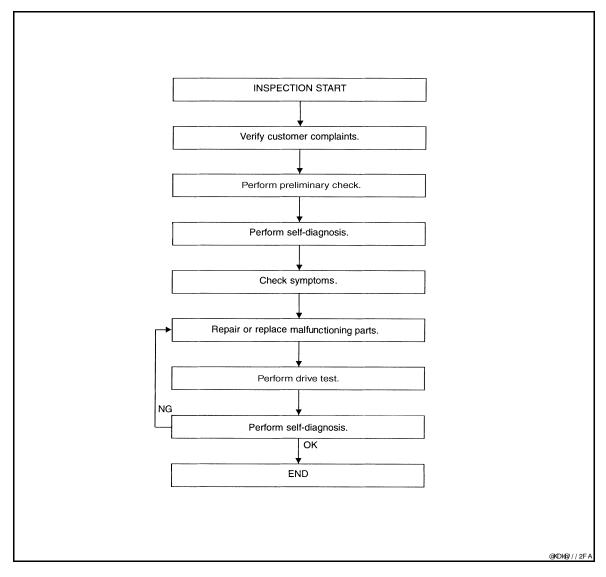
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Repair Work Flow

WORK FLOW



WT-5, "Preliminary Check"

WT-32, "Self-Diagnosis (With CONSULT-III)" WT-33, "Self-Diagnosis (Without CONSULT-III)"

WT-35, "Symptom Table"

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DETAILED FLOW

1. CUSTOMER INFORMATION

Interview the customer to obtain detailed information about the symptom.

>> GO TO 2

2.PRELIMINARY CHECK

Perform preliminary check. Refer to WT-5, "Preliminary Check".

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

>> GO TO 3

3. SELF-DIAGNOSIS

Perform SELF-DIAGNOSIS. Refer to <u>WT-32, "Self-Diagnosis (With CONSULT-III)"</u> or <u>WT-33, "Self-Diagnosis (Without CONSULT-III)"</u>.

>> GO TO 4

4.SYMPTOM

Check for symptoms. Refer to WT-35, "Symptom Table".

>> GO TO 5

5. MALFUNCTIONING PARTS

Repair or replace the applicable parts.

>> GO TO 6

6. DRIVE TEST

- 1. Perform a drive test.
- 2. Check the low tire pressure warning lamp.

>> GO TO 7

7.self-diagnosis

Perform SELF-DIAGNOSIS. Refer to <u>WT-32, "Self-Diagnosis (With CONSULT-III)"</u> or <u>WT-33, "Self-Diagnosis (Without CONSULT-III)"</u>.

Are any DTC's displayed?

YES >> GO TO 5

NO >> Inspection End.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

INSPECTION AND ADJUSTMENT

Preliminary Check

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1. TIRE PRESSURE

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Check all tire pressures. Refer to WT-50, "Tire".

Do tire pressures match specification?

YES >> GO TO 2.

NO >> Adjust tire pressures to specified value.

2.LOW TIRE PRESSURE WARNING LAMP

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Check low tire pressure warning lamp activation.

Does the low tire pressure warning lamp activate for one second when ignition switch is turned ON?

YES >> GO TO 3.

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>> GO TO <u>WT-36</u>, "Low Tire Pressure Warning Lamp Does Not Come On When Ignition Switch Is <u>Turned On"</u>.

3.BCM CONNECTOR

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- Disconnect BCM harness connectors.
- 2. Check terminals for damage or loose connections.
- 3. Reconnect harness connectors.

Are BCM connectors damaged or loose?

YES >> Repair or replace damaged parts.

NO >> GO TO 4.

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4. TRANSMITTER ACTIVATION TOOL

Check battery in transmitter activation tool.

Is transmitter activation tool battery fully charged?

YES >> Perform self-diagnosis. Refer to <u>WT-32, "Self-Diagnosis (With CONSULT-III)"</u> or <u>WT-33, "Self-Diagnosis (Without CONSULT-III)"</u>.

NO >> Replace battery in transmitter activation tool.

INFOID:0000000004064560

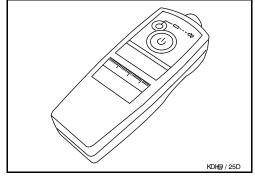
Transmitter Wake Up Operation

NOTE:

This procedure must be done after replacement of a low tire pressure warning transmitter or BCM. New replacement transmitters are provided asleep and must first be woken up using Transmitter Activation Tool J-45295 before ID registration can be performed.

 Turn ignition switch ON. Push the transmitter activation tool against the tire near the front left transmitter. Press the button for 5 seconds. The hazard warning lamps flash per the following diagram.

Tool number : (J-45295)

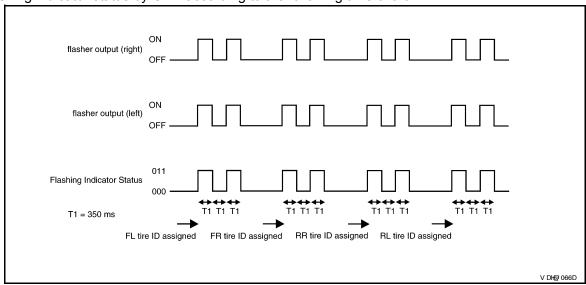


2. Repeat this procedure for each tire in the following order: FL, FR, RR, RL.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

3. When the BCM finishes assigning each tire ID, the BCM flashes the hazard warning lamps and sends flashing indicator status by CAN according to the following time chart.



4. After completing wake up of all transmitters, make sure low tire pressure warning lamp goes out.

ID Registration Procedure

INFOID:0000000004064561

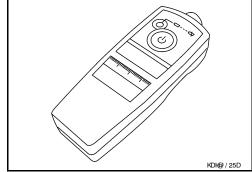
ID REGISTRATION WITH TRANSMITTER ACTIVATION TOOL

NOTE:

This procedure must be done after replacement of a low tire pressure warning transmitter or BCM. New replacement transmitters are provided asleep and must first be woken up using Transmitter Activation Tool J-45295 before ID registration can be performed.

- Connect CONSULT-III.
- 2. Select ID REGIST under BCM.
- 3. Push the transmitter activation tool against the tire near the front left transmitter. Press the button for 5 seconds.

Tool number : (J-45295)



4. Register the IDs in order from FR LH, FR RH, RR RH and RR LH. When ID registration of each wheel has been completed, the hazard warning lamps flash.

Step	Activation tire position	Hazard warning lamp	CONSULT-III
1	Front LH		
2	Front RH	2 times flashing	YET
3	Rear RH	2 unies liastiling	DONE
4	Rear LH		

5. After completing all ID registrations, press END to complete the procedure.

NOTE:

Be sure to register all of the IDs in order from FR LH, FR RH, RR RH, to RR LH, or the self-diagnostic results display will not function properly.

ID REGISTRATION WITHOUT TRANSMITTER ACTIVATION TOOL

NOTE:

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

This procedure must be done after replacement of a low tire pressure warning transmitter or BCM. New replacement transmitters are provided asleep and must first be woken up using Transmitter Activation Tool J-45295 before ID registration can be performed.

- 1. Connect CONSULT-III.
- 2. Select ID REGIST under BCM.

3. Adjust the tire pressures to the values shown in the table and drive the vehicle at 40 km/h (25 MPH) or more for a few minutes.

Tire position	Tire pressure kPa (kg/cm², psi)
Front LH	250 (2.5, 36)
Front RH	230 (2.3, 33)
Rear RH	210 (2.1, 30)
Rear LH	190 (1.9, 27)

4. After completing all ID registrations, press END to complete the procedure.

Activation tire position	CONSULT-III
Front LH	
Front RH	YET I
Rear RH	DONE
Rear LH	

5. Inflate all tires to proper pressure. Refer to WT-50, "Tire".

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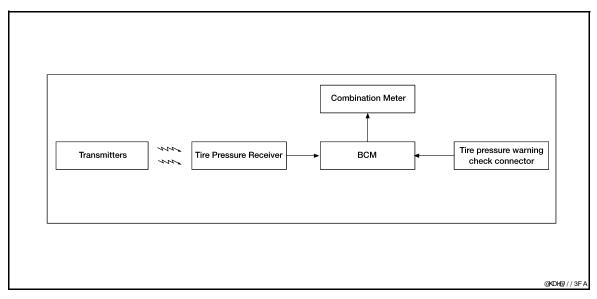
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FUNCTION DIAGNOSIS

TPMS

System Diagram

INFOID:0000000004064562



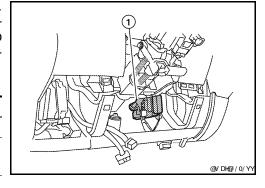
System Description

INFOID:0000000004064563

BODY CONTROL MODULE (BCM)

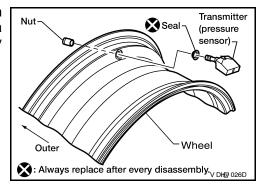
The BCM (1) is shown with the lower instrument panel LH removed. The BCM reads the air pressure signal received by the remote keyless entry receiver, and controls the low tire pressure warning lamp as shown below. It also has a self-diagnosis function to detect a system malfunction.

Condition	Low tire pressure warning lamp
System normal	On for 1 second after ignition ON
Tire less than 193 kPa (2.0 kg/cm ² , 28 psi) [Flat tire]	ON
Low tire pressure warning system malfunction	After key ON, flashes once per second for 1 minute, then stays ON



TRANSMITTER

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

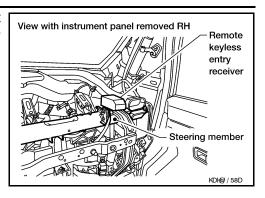


REMOTE KEYLESS ENTRY RECEIVER

TPMS

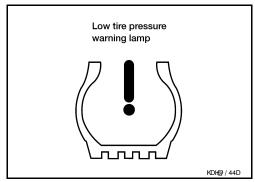
< FUNCTION DIAGNOSIS >

The remote keyless entry receiver is shown with the instrument panel RH removed. The remote keyless entry receiver receives the air pressure signal transmitted by the transmitter in each wheel.



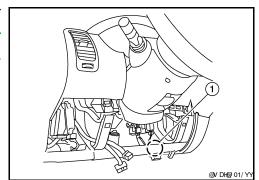
COMBINATION METER

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.



TIRE PRESSURE WARNING CHECK CONNECTOR

The tire pressure warning check connector can be grounded in order to initiate self-diagnosis without a CONSULT-III. Refer to <u>WT-33</u>, <u>"Self-Diagnosis (Without CONSULT-III)"</u>. The tire pressure warning check connector (1) is located behind the lower portion of the instrument panel LH.



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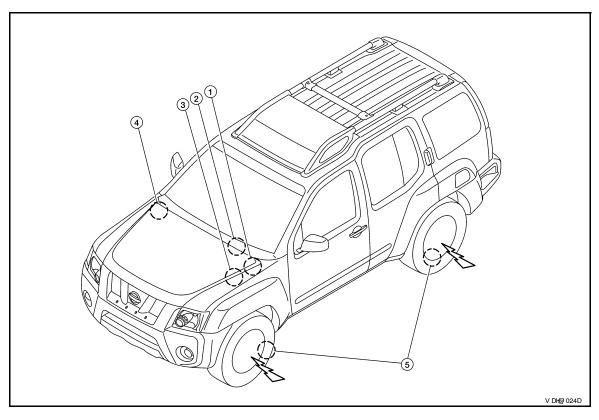
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System Component

INFOID:0000000004064564



1. BCM M18, M20

- 2. Combination meter M24
- 3. Tire pressure warning check connector

- 4. Remote keyless entry receiver M120 5.
- Transmitters

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

CONSULT-III Function (BCM)

INFOID:0000000004064565

CONSULT-III DIAGNOSTIC MODES

CONSULT-III can display each diagnostic item using the diagnostic test modes shown following.

Diagnostic mode	Description
Work Support	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
Data Monitor	Displays BCM input/output data in real time.
Active Test	Operation of electrical loads can be checked by sending drive signal to them.
Self-Diagnostic Result	Displays BCM self-diagnosis results.
CAN Diagnostic Support Monitor	The result of transmit/receive diagnosis of CAN communication can be read.
ECU Identification	BCM part number can be read.
Configuration	Performs BCM configuration read/write functions.

DESCRIPTION

During driving, the tire pressure monitoring system receives the signal transmitted from the transmitter installed in each wheel, and turns on the low tire pressure warning lamp when the tire pressure becomes low. The control unit (BCM) for this system has pressure judgement and self-diagnosis functions.

FUNCTION

When the tire pressure monitoring system detects low inflation pressure or an internal malfunction, the low tire pressure warning lamp in the combination meter comes on. The malfunction is indicated by the low tire pressure warning lamp flashing.

CONSULT-III Application to Tire Pressure Monitoring System

ITEM	SELF-DIAGNOSTIC RESULTS	DATA MONITOR
Front - Left transmitter	×	X
Front - Right transmitter	×	X
Rear - Left transmitter	×	X
Rear - Right transmitter	×	X
Warning lamp	_	X
Vehicle speed	×	X
CAN Communication	×	×

^{×:} Applicable

Data Monitor Mode

MONITOR	CONDITION	SPECIFICATION
VEHICLE SPEED	Drive vehicle.	Vehicle speed (km/h or MPH)
AIR PRESS FL AIR PRESS FR AIR PRESS RR AIR PRESS RL	 Drive vehicle for a few minutes. or Ignition switch ON and activation tool is transmitting activation signals. 	Tire pressure (kPa or psi)

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^{- :} Not applicable

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

MONITOR	CONDITION	SPECIFICATION
ID REGST FL1 ID REGST FR1 ID REGST RR1 ID REGST RL1	Ignition switch ON	ID not registered: YET ID registered: DONE
WARNING LAMP	Ignition switch ON	Low tire pressure warning lamp on: ON Low tire pressure warning lamp off: OFF
BUZZER		Buzzer in combination meter on: ON Buzzer in combination meter off: OFF

NOTE:

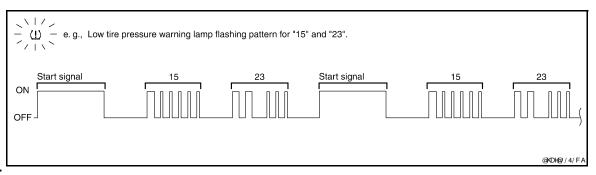
Before performing the self-diagnosis, be sure to register the ID, or the actual malfunction location may be different from that displayed on CONSULT-III.

Self-Diagnosis (Without CONSULT-III)

INFOID:0000000004459259

SELF DIAGNOSTIC PROCEDURE (WITHOUT CONSULT-III)

- 1. Turn ignition switch ON.
- 2. Ground the tire pressure warning check connector to initiate self diagnosis.
- 3. Compare the flashing pattern with the flash code chart below.



NOTE:

The system is normal when the low tire pressure warning lamp flashes 5 times and continues repeating. Self-diagnosis results are erased automatically by turning the ignition switch "OFF".

Flash Code	Malfunction part	Reference page
15 16 17 18	Tire pressure dropped below specified value. Refer to WT-8, "System Description".	_
21 22 23 24	Transmitter no data (FL) Transmitter no data (FR) Transmitter no data (RR) Transmitter no data (RL)	<u>WT-14</u>
31 32 33 34	Transmitter checksum error (FL) Transmitter checksum error (FR) Transmitter checksum error (RR) Transmitter checksum error (RL)	<u>WT-16</u>
35 36 37 38	Transmitter pressure data error (FL) Transmitter pressure data error (FR) Transmitter pressure data error (RR) Transmitter pressure data error (RL)	<u>WT-18</u>
41 42 43 44	Transmitter function code error (FL) Transmitter function code error (FR) Transmitter function code error (RR) Transmitter function code error (RL)	<u>WT-16</u>

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Flash Code	Malfunction part	Reference page
45 46 47 48	Transmitter battery voltage low (FL) Transmitter battery voltage low (FR) Transmitter battery voltage low (RR) Transmitter battery voltage low (RL)	<u>WT-16</u>
52	Vehicle speed signal	<u>WT-19</u>
54	Vehicle ignition signal	<u>WT-20</u>

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C1708 - C1711 DATA FROM TRANSMITTER NOT BEING RECEIVED

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

C1708 - C1711 DATA FROM TRANSMITTER NOT BEING RECEIVED

Description INFOID:0000000004064567

Tire pressure data for one or more transmitters is not being received by the BCM.

DTC Logic INFOID:0000000004064568

DTC DETECTION LOGIC

DTC	CONSULT-III	DTC detecting condition
C1708	[NO - DATA] - FL	Data from FL transmitter cannot be received.
C1709	[NO - DATA] - FR	Data from FR transmitter cannot be received.
C1710	[NO - DATA] - RR	Data from RR transmitter cannot be received.
C1711	[NO - DATA] - RL	Data from RL transmitter cannot be received.

DTC CONFIRMATION PROCEDURE

${f 1}$.ID REGISTRATION AND VEHICLE DRIVING

- Carry out ID registration of all transmitters.
- Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.

INFOID:0000000004064569

3. Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

YES >> Inspection End.

>> Refer to WT-14, "Diagnosis Procedure". NO

Diagnosis Procedure

MALFUNCTION CODE NO. 21, 22, 23 OR 24 (DTC C1708, C1709, C1710 OR C1711)

1.CHECK BCM

Drive for several minutes. Check all tire pressures with CONSULT-III.

Are all tire pressures displayed as 0 kPa?

YES >> GO TO 2

>> GO TO 3 NO

2.check tire pressure receiver connector

Check tire pressure receiver connector for damage or loose connection.

Is tire pressure receiver connector damaged or loose?

YES >> Repair or replace tire pressure receiver connector.

NO >> Replace BCM, then GO TO 3. Refer to BCS-57, "Removal and Installation".

3 Perform id registration

Carry out ID registration of all transmitters. Refer to WT-6, "ID Registration Procedure".

Is there a tire that cannot register ID?

>> Replace malfunctioning transmitter, then GO TO 5. Refer to WT-48, "Transmitter (Pressure Sen-YES sor)".

NO >> GO TO 4

4. DRIVE VEHICLE

Drive at a speed of 40 km/h (25 MPH) or more for several minutes without stopping.

Check all tire pressures with CONSULT-III within 15 minutes after vehicle speed becomes 17 km/h (11 MPH).

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

C1708 - C1711 DATA FROM TRANSMITTER NOT BEING RECEIVED < COMPONENT DIAGNOSIS > YES >> Inspection End. NO >> GO TO 5 Α 5. ID REGISTRATION AND VEHICLE DRIVING 1. Carry out ID registration of all transmitters. В 2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes. 3. Check all tire pressures with CONSULT-III within 5 minutes. C Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp? YES >> Inspection End. NO >> Proceed to the inspection applicable to DTC. D Special Repair Requirement INFOID:0000000004064570 Perform preliminary check. Refer to WT-5, "Preliminary Check".

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C1712 - C1715, C1720 - C1723, C1724 - C1727 TRANSMITTER MALFUNCTION

< COMPONENT DIAGNOSIS >

C1712 - C1715, C1720 - C1723, C1724 - C1727 TRANSMITTER MALFUNC-TION

Description INFOID:000000004064571

One or more transmitters are malfunctioning internally.

DTC Logic

DTC DETECTION LOGIC

DTC	CONSULT-III	DTC detecting condition
C1712	[CHECKSUM - ERR] - FL	Checksum data from FL transmitter is malfunctioning.
C1713	[CHECKSUM - ERR] - FR	Checksum data from FR transmitter is malfunctioning.
C1714	[CHECKSUM - ERR] - RR	Checksum data from RR transmitter is malfunctioning.
C1715	[CHECKSUM - ERR] - RL	Checksum data from RL transmitter is malfunctioning.
C1720	[CODE - ERR] - FL	Function code data from FL transmitter is malfunctioning.
C1721	[CODE - ERR] - FR	Function code data from FR transmitter is malfunctioning.
C1722	[CODE - ERR] - RR	Function code data from RR transmitter is malfunctioning.
C1723	[CODE - ERR] - RL	Function code data from RL transmitter is malfunctioning.
C1724	[BATT - VOLT - LOW] - FL	Battery voltage of FL transmitter drops.
C1725	[BATT - VOLT - LOW] - FR	Battery voltage of FR transmitter drops.
C1726	[BATT - VOLT - LOW] - RR	Battery voltage of RR transmitter drops.
C1727	[BATT - VOLT - LOW] - RL	Battery voltage of RL transmitter drops.

DTC CONFIRMATION PROCEDURE

1. DRIVE VEHICLE

- 1. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
- 2. Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

YES >> Inspection End.

NO >> Refer to <u>WT-16, "Diagnosis Procedure"</u>.

Diagnosis Procedure

MALFUNCTION CODE NO. 31, 32, 33, 34, 41, 42, 43, 44, 45, 46, 47 OR 48 (DTC C1712, C1713, C1714, C1715, C1720, C1721, C1722, C1723, C1724, C1725, C1726 OR C1727)

INFOID:0000000004064573

1.PERFORM ID REGISTRATION

- 1. Carry out ID registration of all transmitters. Refer to WT-6, "ID Registration Procedure".
- Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.

>> GO TO 2

2. REPLACE TRANSMITTER

- 1. Check low tire pressure warning lamp again for flashing, replace malfunctioning transmitter. Refer to <u>WT-48</u>, "Transmitter (Pressure Sensor)".
- 2. Carry out ID registration of all transmitters.

Can ID registration of all transmitters be completed?

YES >> GO TO 3

NO >> GO TO WT-14, "Diagnosis Procedure".

C1712 - C1715, C1720 - C1723, C1724 - C1727 TRANSMITTER MALFUNCTION

< COMPONENT DIAGNOSIS >

3. DRIVE VEHICLE

- 1. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
- 2. Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

- YES >> Inspection End.
- NO >> Replace malfunctioning transmitter, and perform Step 3 again.

Special Repair Requirement

Perform preliminary check. Refer to WT-5, "Preliminary Check".

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C1716 - C1719 TRANSMITTER PRESSURE MALFUNCTION

< COMPONENT DIAGNOSIS >

C1716 - C1719 TRANSMITTER PRESSURE MALFUNCTION

Description INFOID.000000004064575

Air pressure data from one or more transmitters is out of range.

DTC Logic

DTC DETECTION LOGIC

DTC	CONSULT - III	DTC detecting condition
C1716	[PRESSDATA - ERR] FL	Air pressure data from FL transmitter is malfunctioning.
C1717	[PRESSDATA - ERR] FR	Air pressure data from FR transmitter is malfunctioning.
C1718	[PRESSDATA - ERR] RR	Air pressure data from RR transmitter is malfunctioning.
C1719	[PRESSDATA - ERR] RL	Air pressure data from RL transmitter is malfunctioning.

DTC CONFIRMATION PROCEDURE

1. ID REGISTRATION AND VEHICLE DRIVING

- 1. Carry out ID registration of all transmitters.
- 2. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
- 3. Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

YES >> Inspection End.

NO >> Refer to <u>WT-18</u>, "<u>Diagnosis Procedure</u>".

Diagnosis Procedure

INFOID:0000000004064577

MALFUNCTION CODE NO. 35, 36, 37 OR 38 (DTC C1716, C1717, C1718 OR C1719)

1. CHECK ALL TIRE PRESSURES

Check all tire pressures. Refer to WT-50, "Tire".

Are there any tires with pressure of 64 psi or more?

YES >> Adjust tire pressure to specified value.

NO >> GÓ TO 2

2.ID REGISTRATION AND VEHICLE DRIVING

- 1. Carry out ID registration of all transmitters. Refer to WT-6, "ID Registration Procedure".
- 2. Drive at a speed of 40 km/h (25 MPH) or more for several minutes without stopping.
- Check all tire pressures with CONSULT-III within 15 minutes after vehicle speed becomes 17 km/h (11 MPH).

Does DATA MONITOR ITEM display 64 psi or more?

YES >> Replace transmitter. Refer to WT-48, "Transmitter (Pressure Sensor)". GO TO 3.

NO >> GO TO 3

3.ID REGISTRATION AND VEHICLE DRIVING

- 1. Carry out ID registration of all transmitters.
- Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
- Check all tire pressures with CONSULT-III within 5 minutes.

Does DATA MONITOR ITEM display tire pressure as normal without any warning lamp?

YES >> Inspection End.

NO >> Proceed to the inspection applicable to DTC.

Special Repair Requirement

INFOID:0000000004459261

Perform preliminary check. Refer to WT-5, "Preliminary Check".

C1729 VEHICLE SPEED SIGNAL

< COMPONENT DIAGNOSIS > C1729 VEHICLE SPEED SIGNAL Α Description INFOID:0000000004064579 The vehicle speed signal is not being detected by the BCM. В **DTC Logic** INFOID:0000000004064580 DTC DETECTION LOGIC DTC CONSULT - III DTC detecting condition D C1729 VHCL SPEED SIG ERR Vehicle speed signal is in error. DTC CONFIRMATION PROCEDURE 1. CHECK SELF-DIAGNOSTIC RESULTS WT On SELECT DIAG MODE, select the SELF-DIAG RESULT screen. Check display contents on SELF DIAG RESULT screen. Is the CAN COMM CIRCUIT displayed in the self-diagnosis display? >> Refer to WT-19, "Diagnosis Procedure". NO >> Inspection end. Diagnosis Procedure INFOID:0000000004064581 MALFUNCTION CODE NO. 52 (DTC C1729) Н 1. CHECK SELF-DIAGNOSTIC RESULTS On SELECT DIAG MODE, select the SELF-DIAG RESULT screen. Check display contents on SELF DIAG RESULT screen. Is the CAN COMM CIRCUIT displayed in the self-diagnosis display? YES >> Perform trouble diagnosis for CAN communication system. Refer to LAN-14, "Trouble Diagnosis Flow Chart". >> Check combination meter. Refer to MWI-24, "CONSULT-III Function (METER/M&A)". NO Special Repair Requirement INFOID:0000000004459262 Perform preliminary check. Refer to WT-5, "Preliminary Check". Ν

C1735 IGNITION SIGNAL

Description INFOID:0000000004459263

The BCM monitors the IGN ON signal on the CAN line and compares it to it's direct IGN ON signal. When these two signals do not match, the BCM sets C1735.

DTC Logic INFOID:0000000004459264

DTC DETECTION LOGIC

DTC	CONSULT - III	DTC detecting condition
C1735	IGNITION SIGNAL LINE - BCM/TPMS	BCM has detected a mismatch between IGN ON signals.

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULTS

- 1. On SELECT DIAG MODE, select the SELF-DIAG RESULT screen.
- 2. Check display contents on SELF DIAG RESULT screen.

Is C1735 displayed in the self-diagnosis display?

YES >> Refer to WT-20, "Diagnosis Procedure".

>> Inspection End. NO

Diagnosis Procedure

INFOID:0000000004459265

MALFUNCTION CODE NO. 54 (DTC C1735)

1.CAN IGNITION SIGNAL

Check BCM IGN RLY signal with CONSULT-III. Refer to WT-21, "Reference Value".

Are the inspection results normal with the ignition switch ON?

YES >> GO TO 2.

NO >> Check CAN system. Refer to LAN-14, "Trouble Diagnosis Flow Chart".

2.BCM POWER SUPPLY

Check BCM power supply (ignition ON). Refer to BCS-33, "Diagnosis Procedure".

Is the power supply with the ignition switch ON normal?

YES >> GO TO 3.

NO >> Repair power supply as necessary.

3.DRIVE VEHICLE

Clear DTC and then test drive the vehicle and check the low tire pressure warning lamp.

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

YES >> Inspection End.

>> Replace BCM. Refer to BCS-57, "Removal and Installation".

Special Repair Requirement

Perform preliminary check. Refer to WT-5, "Preliminary Check".

INFOID:0000000004459270

< ECU DIAGNOSIS >

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

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VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status	
IGN ON SW	Ignition switch OFF or ACC	OFF	
IGN ON SW	Ignition switch ON	ON	D
KEY ON SW	Mechanical key is removed from key cylinder	OFF	
KEY ON SW	Mechanical key is inserted to key cylinder	ON	WT
CDL LOCK SW	Door lock/unlock switch does not operate	OFF	VVI
CDL LOCK SW	Press door lock/unlock switch to the lock side	ON	
CDL UNLOCK SW	Door lock/unlock switch does not operate	OFF	F
CDL UNLOCK SW	Press door lock/unlock switch to the unlock side	ON	
DOOR SW-DR	Driver's door closed	OFF	
DOOR SW-DR	Driver's door opened	ON	G
DOOR SW-AS	Passenger door closed	OFF	
DOOR SW-AS	Passenger door opened	ON	Н
DOOR SW-RR	Rear RH door closed	OFF	
DOOK SW-KK	Rear RH door opened	ON	
DOOR SW-RL	Rear LH door closed	OFF	
DOOR SW-RL	Rear LH door opened	ON	
DACK DOOD CW	Back door closed	OFF	.1
BACK DOOR SW	Back door opened	ON	
KEY CYLLK CM	Other than driver door key cylinder LOCK position	OFF	
KEY CYL LK-SW	Driver door key cylinder LOCK position	ON	K
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	OFF	
KET CTL UN-5W	Driver door key cylinder UNLOCK position	ON	
KEYLESS LOCK	"LOCK" button of key fob is not pressed	OFF	
KETLESS LUCK	"LOCK" button of key fob is pressed	ON	
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	OFF	M
KETLESS UNLOCK	"UNLOCK" button of key fob is pressed	ON	
ACC ON SW	Ignition switch OFF	OFF	
ACC ON 3W	Ignition switch ACC or ON	ON	N
DEAD DEE SW	Rear window defogger switch OFF	OFF	
REAR DEF SW	Rear window defogger switch ON	ON	0
LICHT OW 1CT	Lighting switch OFF	OFF	
LIGHT SW 1ST	Lighting switch 1ST	ON	
BUCKLE SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	OFF	P
DOORLE GVV	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	ON	
KEVI EGG DANIO	PANIC button of key fob is not pressed	OFF	
KEYLESS PANIC	PANIC button of key fob is pressed	ON	

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	OFF
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	OFF
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is not pressed and held simultaneously	OFF
RRE LOR-UNLOR	LOCK/UNLOCK button of key fob is pressed and held simultaneously	ON
	UNLOCK button of key fob is not pressed	OFF
RKE KEEP UNLK	UNLOCK button of key fob is pressed and held	ON
LILDEAM CM	Lighting switch OFF	OFF
HI BEAM SW	Lighting switch HI	ON
LIEAD LAMB CVA/A	Lighting switch OFF	OFF
HEAD LAMP SW 1	Lighting switch 2ND	ON
LIEAD LAMB CVA/ C	Lighting switch OFF	OFF
HEAD LAMP SW 2	Lighting switch 2ND	ON
AUTO LIGHT SW	NOTE: The item is indicated, but not monitored.	OFF
DA COINIO CVA	Other than lighting switch PASS	OFF
PASSING SW	Lighting switch PASS	ON
ED EOO OW	Front fog lamp switch OFF	OFF
FR FOG SW	Front fog lamp switch ON	ON
RR FOG SW	NOTE: The item is indicated, but not monitored.	OFF
TUDNI OLONIAL D	Turn signal switch OFF	OFF
TURN SIGNAL R	Turn signal switch RH	ON
TUDN CIONAL I	Turn signal switch OFF	OFF
TURN SIGNAL L	Turn signal switch LH	ON
OADOO LAMBOW	Cargo lamp switch OFF	OFF
CARGO LAMP SW	Cargo lamp switch ON	ON
OPTICAL SENSOR	NOTE: The item is indicated, but not monitored.	OFF
IONI OW OANI	Ignition switch OFF or ACC	OFF
IGN SW CAN	Ignition switch ON	ON
ED W//DED I !!	Front wiper switch OFF	OFF
FR WIPER HI	Front wiper switch HI	ON
ED WIDED LOW	Front wiper switch OFF	OFF
FR WIPER LOW	Front wiper switch LO	ON
ED WIDED INT	Front wiper switch OFF	OFF
FR WIPER INT	Front wiper switch INT	ON
ED MAQUED C'A'	Front washer switch OFF	OFF
FR WASHER SW	Front washer switch ON	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
ED WIDED 07:-	Any position other than front wiper stop position	OFF
FR WIPER STOP	Front wiper stop position	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading

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< ECU DIAGNOSIS >

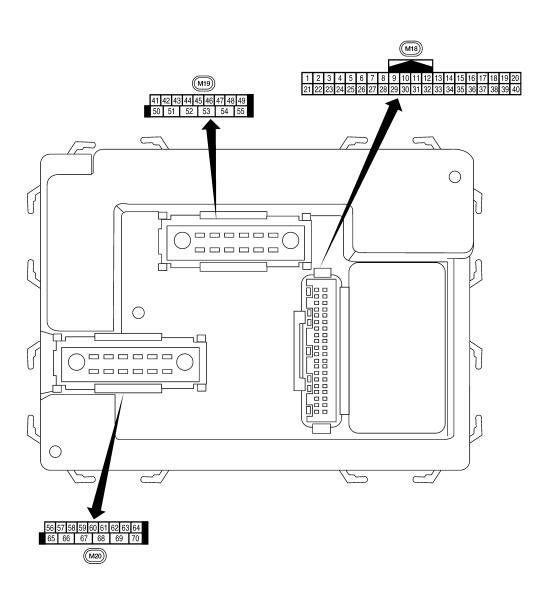
Monitor Item	Condition	Value/Status
RR WIPER ON	Rear wiper switch OFF	OFF
KIK WIF EIX OIN	Rear wiper switch ON	ON
RR WIPER INT	Rear wiper switch OFF	OFF
AIX WII LIX IIV I	Rear wiper switch INT	ON
RR WASHER SW	Rear washer switch OFF	OFF
VIV WASHER SW	Rear washer switch ON	ON
RR WIPER STOP	Any position other than rear wiper stop position	OFF
KK WIFEK STOF	Rear wiper stop position	ON
H/L WASH SW	NOTE: The item is indicated, but not monitored.	OFF
HAZARD SW	Hazard switch OFF	OFF
TAZARD SW	Hazard switch ON	ON
BRAKE SW	Brake pedal is not depressed	OFF
NC SAN	Brake pedal is depressed	ON
AN ON SIC	Blower fan motor switch OFF	OFF
AN ON SIG	Blower fan motor switch ON (other than OFF)	ON
JID COND SW	Compressor ON is not requested from auto amp. (A/C indicator OFF, blower fan motor switch OFF or etc.)	OFF
AIR COND SW	Compressor ON is requested from auto amp. (A/C indicator ON and blower fan motor switch ON).	ON
RNK OPNR SW	NOTE: The item is indicated, but not monitored.	OFF
FRUNK CYL SW	NOTE: The item is indicated, but not monitored.	OFF
HOOD SW	NOTE: The item is indicated, but not monitored.	OFF
OIL PRESS SW	Ignition switch OFF or ACC Engine running	OFF
	Ignition switch ON	ON
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
D REGST FL1	ID of front LH tire transmitter is registered	DONE
S NEOOTTET	ID of front LH tire transmitter is not registered	YET
D REGST FR1	ID of front RH tire transmitter is registered	DONE
ALGOTTAL	ID of front RH tire transmitter is not registered	YET
D REGST RR1	ID of rear RH tire transmitter is registered	DONE
J NEGOT KKT	ID of rear RH tire transmitter is not registered	YET
D REGST RL1	ID of rear LH tire transmitter is registered	DONE
J NEGOT KLI	ID of rear LH tire transmitter is not registered	YET
VADNING LAMP	Tire pressure indicator OFF	OFF
WARNING LAMP	Tire pressure indicator ON	ON

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
BU77FR	Tire pressure warning alarm is not sounding	OFF
DOZZEN	Tire pressure warning alarm is sounding	ON

Terminal Layout

INFOID:0000000004459268



Physical Values

INFOID:0000000004459269

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	\A/'		Signal		Measuring condition	Defining all and a firm
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
4	BR	Ignition keyhole illumi-	Outout	OFF	Door is locked (SW OFF)	Battery voltage
1	BR	nation	Output	OFF	Door is unlocked (SW ON)	0V
2	Р	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ***5ms
3	SB	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ++5ms
4	V	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ++5ms RJH@#180D
5	L	Combination switch input 2				(V)
6	R	Combination switch input 1	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	FJH@4181D
		Front door lock as-			ON (open, 2nd turn)	Momentary 1.5V
7	GR	sembly LH (key cylin- der switch) and back door key cylinder switch (unlock)	Input	OFF	OFF (closed)	0V
		Front door lock as-			ON (open)	Momentary 1.5V
8	SB	sembly LH (key cylin- der switch) and back door key cylinder switch (lock)	Input	OFF	OFF (closed)	0V
9	Y	Rear window defogger	Input	ON	Rear window defogger switch ON	0V
	•	switch			Rear window defogger switch OFF	5V
11	G/B	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage

	Wire		Signal		Measuring condition	Reference value or waveform	
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)	
12	LG	Front door switch RH	Input	OFF	ON (open)	0V	
					OFF (closed)	Battery voltage	
13	L	Rear door switch RH	Input	OFF	ON (open) OFF (closed)	0V Battery voltage	
15	W	Tire pressure warning check connector	Input	OFF	_	5V	
18	BR	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	_	0V	
19	V	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 	
20	G	Remote keyless entry	Input	OFF	Stand-by (keyfob buttons released)	(V) 6 4 2 0 + 50 ms	
20	J	receiver (signal)	mpat	OI I	When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2 0 + *50 ms	
21	GR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.	
23	G	Security indicator lamp	Output	OFF	Goes OFF \rightarrow illuminates (Every 2.4 seconds)	Battery voltage → 0V	
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.	
27	W	Compressor ON sig-	Input	ON	A/C switch OFF	5V	
-1	4.4	nal	mpat	514	A/C switch ON	0V	
28	R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage	
			pat	5.4	Front blower motor ON	0V	
29	G	Hazard switch	Input	OFF	ON	0V	
20		. Idzaid Switoil	прас	011	OFF	5V	
31	R	Off-road lamps switch	Input	ON	ON	0V	
		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			OFF	5V	

< ECU DIAGNOSIS >

.	Wire	0.	Signal		Measuring condition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)
32	0	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 + 5ms
33	GR	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ***5ms
34	G	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ***5ms
35	BR	Combination switch output 2				RJ H@4180D
36	LG	Combination switch output 1	Output	wiper diai position 4		6 4 2
		Key switch and key			Key inserted	Battery voltage
37	В	lock solenoid	Input	OFF	Key inserted	0V
38	W/R	Ignition switch (ON)	Input	ON	_	Battery voltage
39	L	CAN-H	_	_	_	_
40	Р	CAN-L	_	_	_	_
42	L	Off-road lamps	Output	ON	Off-road ON OFF	0V Battery voltage
43	Υ	Back door switch	Input	OFF	ON (open)	0V
70		Dack GOO! SWILLII	прис	OI F	OFF (closed)	Battery voltage
					Rise up position (rear wiper arm on stopper) A Position (full clockwise stop	0V
44	0	Rear wiper auto stop switch	Input	ON	position) Forward sweep (counterclockwise direction)	Battery voltage Fluctuating
		SWITCH			B Position (full counterclock- wise stop position)	0V
					Reverse sweep (clockwise direction)	Fluctuating

< ECU DIAGNOSIS >

	Wire		Signal		Measuring con	dition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation	or condition	(Approx.)
45	V	Lock switch	Input	OFF	ON (lock)		0V
40	•	LOCK SWITCH	mpat	011	OFF		Battery voltage
46	LG	Unlock switch	Input	OFF	ON (unlock)		0V
40		Officer Switch	трас	011	OFF		Battery voltage
47	GR	Front door switch LH	Input	OFF	ON (open)		0V
777	OI C	Tront door Switch Err	mpat	011	OFF (closed)		Battery voltage
48	Р	Rear door switch LH	Input	OFF	ON (open)		0V
-10		rteal door owner Err	трас	011	OFF (closed)		Battery voltage
49	L	Cargo lamp	Output	OFF	Any door open	(ON)	0V
40	_	ourgo lamp	Output	011	All doors close	ed (OFF)	Battery voltage
50	W	Off-road lamps relay	Output	ON	Off-road	ON	0V
	**	On road lamps relay	Output	ON	lamps switch	OFF	Battery voltage
51	G	Trailer turn signal (right)	Output	ON	Turn right ON		(V) 15 10 500 ms RJ ₩@//8I
52	V	Trailer turn signal (left)	Output	ON	Turn left ON		(V) 15 10 500 ms BJ H@2//8I
55	W	Rear wiper output cir-	Output	ON	OFF		0
		cuit 1	- Carpar	0	ON		Battery voltage
56	V	Battery saver output	Output	OFF	30 minutes after switch is turne		0V
				ON	_		Battery voltage
57	R/Y	Battery power supply	Input	OFF	_		Battery voltage
59	GR	Front door lock as- sembly LH actuator	Output	OFF	OFF (neutral)		0V
33	Oit	(unlock)	Output	011	ON (unlock)		Battery voltage
60	LG	Turn signal (left)	Output	ON	Turn left ON		(V) 15 10 5 0 500 ms

< ECU DIAGNOSIS >

	Wire		Signal		Measuring cond	dition	Reference value or waveform	
Terminal	color	Signal name	input/ output	Ignition switch	Operation	or condition	(Approx.)	
61	G	Turn signal (right)	Output	ON	Turn right ON		(V) 15 10 500 ms BJH@//8I	
63	BR	Interior room/map	Output	OFF	Any door	ON (open)	0V	
	ы	lamp	Output	011	switch	OFF (closed)	Battery voltage	
65	V	All door lock actuators	Output	OFF	OFF (neutral)		0V	
	•	(lock)	Catput	0.1	ON (lock)		Battery voltage	
		Front door lock actua-			OFF (neutral)		0V	
66	L	tor RH, rear door lock actuators LH/RH and back door lock actua- tor (unlock)	Output	OFF	ON (unlock)		Battery voltage	
67	В	Ground	Input	ON	-	_	0V	
					Ignition switch	ON	Battery voltage	
					Within 45 seco		Battery voltage	
68	0	Power window power supply (RAP)	Output	_	More than 45 s nition switch O	econds after ig- FF	0V	
					When front do open or power operates		0V	
70	W	Battery power supply	Input	OFF	-	_	Battery voltage	

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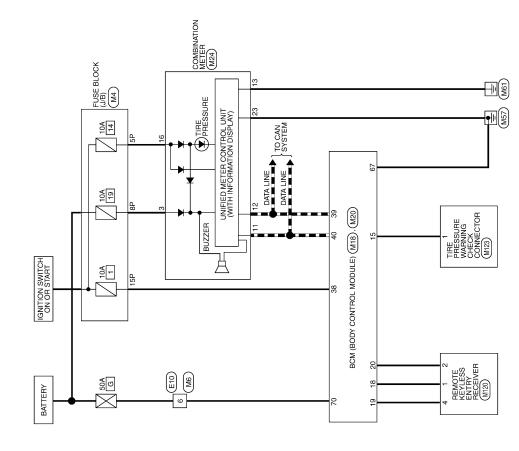
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Wiring Diagram - TIRE PRESSURE MONITORING SYSTEM -

INFOID:0000000004064583

■ : DATA LINE



TIRE PRESSURE MONITORING SYSTEM

@ADV @ / 03F /

TIRE PRESSURE MONITORING SYSTEM CONNECTORS

M4	Connector Name FUSE BLOCK (J/B)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

Connector Name WIRE TO WIRE

Connector No.

Connector Color WHITE

	B)			1P	8
	(5)			3P 2P 1P	10P 9P 8P
	õ			윤	5
	BLO	ш			6P 15P 14P 13P 12P 11P
	SE	≒		4P	13P
Ψ	교	≶		7P 6P 5P 4P	14P
	Ō	_	i	9	15P
or No.	or Name FUSE BLOCK (J/B)	or Color WHITE		77	16P

7P 6P 5P 4P 6 1P 3P 2P 1P 16P 15P 14P 13P 12P 11P 10P 9P 8P	Signal Name	-	-	_
7P 6P 5P 4P 6P 15P 14P 13P	Color of Wire	W/G	R/Y	W/R
H.S.	Terminal No.	5P	8P	15P

Signal Name

Terminal No. Wire

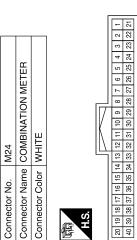
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	BCM (BODY CONTROL MODULE)			12 13 14 15 16 17 18 19 20 32 33 34 35 36 37 38 39 40	Signal Name	TMPS MODE TRIGGER SW	KEYLESS & AUTO LIGHT SENSOR GND	KEYLESS TUNER POWER SUPPLY OUTPUT	KEYLESS TUNER SIGNAL	IGN SW	CAN-H	CAN-L
. M18		lor WHITE		6 7 8 9 10 11 11 26 27 28 29 30 31 3	Color of S	× ×	BR KEY	V FOV	G TU	W/R	٦	Д
Connector No.	Connector Name	Connector Color	南南 H.S.	1 2 3 4 5 21 21 22 23 24 25 2	Terminal No.	15	18	19	20	38	39	40

	CAN-L		
_	۵		
33	40		

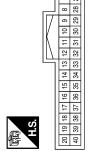
Signal Name	BATTERY	CAN-L	CAN-H	GROUND	RUN START	POWER GND
Color of Wire	R/Υ	۵	_	GR	W/G	В
Terminal No.	3	1	12	13	16	23



Connector Name | BCM (BODY CONTROL | MODULE)

Connector No.

Connector Color | BLACK



_	Ш	8	88	
	Τ	6	53	
II.	/	10	8	
- 11	\	11	8	
	\	12	83	
Ľ	Ħ	5	33	
		14	34 33	
		15	33	
		9	98	
		17	37	
46		28	88	
LS.		19	40 39	
7		8	40	
	_			_

	20 19 18	8
Signal Name	40 39 38	8
)		Ш
GND (POWER)		
BAT (F/L)		

Signal Na	GND (POM	BAT (F/I	
Color of Wire	В	Μ	
erminal No.	29	20	

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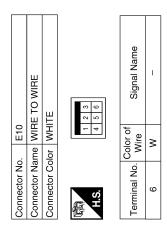
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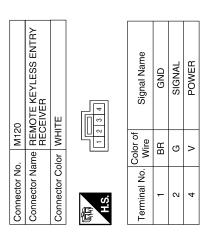
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Connector No.). M123	23
Connector Na	ame TIF	Connector Name TIRE PRESSURE WARNING CHECK CONNECTOR
Connector Color WHITE	olor WF	IITE
原 H.S.		1 2
Terminal No.	Color of Wire	Signal Name
-	M	LOW TIRE



Self-Diagnosis (With CONSULT-III)

FUNCTION

Self-Diagnostic Results Mode

@ADH@//31FA

INFOID:0000000004064584

< ECU DIAGNOSIS >

Diagnostic item	Diagnostic item is detected when ···	Reference page
LOW - PRESSURE - FL [C1704] LOW - PRESSURE - FR [C1705] LOW - PRESSURE - RR [C1706] LOW - PRESSURE - RL [C1707]	Tire pressures dropped below specified value. Refer to WT-8, "System Description".	_
[NO-DATA] - FL [C1708] [NO-DATA] - FR [C1709] [NO-DATA] - RR [C1710] [NO-DATA] - RL [C1711]	Data from FL transmitter cannot be received. Data from FR transmitter cannot be received. Data from RR transmitter cannot be received. Data from RL transmitter cannot be received.	<u>WT-14</u>
[CHECKSUM- ERR] - FL [C1712] [CHECKSUM- ERR] - FR [C1713] [CHECKSUM- ERR] - RR [C1714] [CHECKSUM- ERR] - RL [C1715]	Checksum data from FL transmitter is malfunctioning. Checksum data from FR transmitter is malfunctioning. Checksum data from RR transmitter is malfunctioning. Checksum data from RL transmitter is malfunctioning.	<u>WT-16</u>
[PRESSDATA- ERR] - FL [C1716] [PRESSDATA- ERR] - FR [C1717] [PRESSDATA- ERR] - RR [C1718] [PRESSDATA- ERR] - RL [C1719]	Air pressure data from FL transmitter is malfunctioning. Air pressure data from FR transmitter is malfunctioning. Air pressure data from RR transmitter is malfunctioning. Air pressure data from RL transmitter is malfunctioning.	<u>WT-18</u>
[CODE- ERR] - FL [C1720] [CODE- ERR] - FR [C1721] [CODE- ERR] - RR [C1722] [CODE- ERR] - RL [C1723]	Function code data from FL transmitter is malfunctioning. Function code data from FR transmitter is malfunctioning. Function code data from RR transmitter is malfunctioning. Function code data from RL transmitter is malfunctioning.	<u>WT-16</u>
[BATT - VOLT - LOW] - FL [C1724] [BATT - VOLT - LOW] - FR [C1725] [BATT - VOLT - LOW] - RR [C1726] [BATT - VOLT - LOW] - RL [C1727]	Battery voltage of FL transmitter drops. Battery voltage of FR transmitter drops. Battery voltage of RR transmitter drops. Battery voltage of RL transmitter drops.	<u>WT-16</u>
VHCL_SPEED_SIG_ERR [C1729]	Vehicle speed signal is in error.	<u>WT-19</u>
IGN_CIRCUIT_OPEN [C1735]	Vehicle ignition signal is in error.	<u>WT-20</u>

NOTE:

Before performing the self-diagnosis, be sure to register the ID or else the actual malfunction location may be different from that displayed on CONSULT-III.

Self-Diagnosis (Without CONSULT-III)

INFOID:0000000004064585

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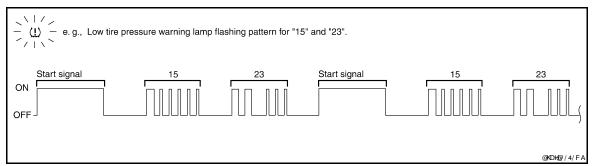
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SELF DIAGNOSTIC PROCEDURE (WITHOUT CONSULT-III)

- Turn ignition switch ON.
- 2. Ground the tire pressure warning check connector to initiate self diagnosis.
- 3. Compare the flashing pattern with the flash code chart below.



NOTE:

The system is normal when the low tire pressure warning lamp flashes 5 times and continues repeating. Self-diagnosis results are erased automatically by turning the ignition switch "OFF".

< ECU DIAGNOSIS >

Flash Code	Malfunction part	Reference page
15	Ties are some descripted below are sifted uplies. Defeate MT 0.110 reterm	_
16 17	Tire pressure dropped below specified value. Refer to WT-8, "System	
18	Description".	
21	Transmitter no data (FL)	<u>WT-14</u>
22	Transmitter no data (FR)	
23	Transmitter no data (RR)	
24	Transmitter no data (RL)	
31	Transmitter checksum error (FL)	<u>WT-16</u>
32	Transmitter checksum error (FR)	
33	Transmitter checksum error (RR)	
34	Transmitter checksum error (RL)	
35	Transmitter pressure data error (FL)	<u>WT-18</u>
36	Transmitter pressure data error (FR)	
37	Transmitter pressure data error (RR)	
38	Transmitter pressure data error (RL)	
41	Transmitter function code error (FL)	<u>WT-16</u>
42	Transmitter function code error (FR)	
43	Transmitter function code error (RR)	
44	Transmitter function code error (RL)	
45	Transmitter battery voltage low (FL)	<u>WT-16</u>
46	Transmitter battery voltage low (FR)	
47	Transmitter battery voltage low (RR)	
48	Transmitter battery voltage low (RL)	
52	Vehicle speed signal	<u>WT-19</u>
54	Vehicle ignition signal	WT-20

TPMS

SYMPTOM DIAGNOSIS

TPMS

Symptom Table

INFOID:0000000004064586

Symptom	Reference
Low tire pressure warning lamp does not come on when ignition switch is turned ON.	<u>WT-36</u>
Low tire pressure warning lamp stays on when ignition switch is turned ON.	<u>WT-37</u>
Low tire pressure warning lamp flashes when ignition switch is turned ON.	<u>WT-38</u>
Hazard warning lamps flash when ignition switch is turned ON.	<u>WT-39</u>
ID registration cannot be completed.	<u>WT-40</u>

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LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

LOW TIRE PRESSURE WARNING LAMP DOES NOT TURN ON

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

DIAGNOSTIC PROCEDURE

1.SELF-DIAGNOSTIC RESULT CHECK

Using CONSULT-III, check display contents of BCM in SELF-DIAGNOSIS.

Is CAN COMM CIRCUIT displayed in the self-diagnosis display items?

YES >> Malfunction in CAN communication system.

NO >> GO TO 2

2.CHECK COMBINATION METER

Check combination meter operation. Refer to MWI-24, "CONSULT-III Function (METER/M&A)".

Is the inspection result normal?

YES >> GO TO 3

NO >> Replace combination meter. Refer to MWI-90, "Removal and Installation".

3.CHECK LOW TIRE PRESSURE WARNING LAMP

Disconnect BCM harness connector.

Does the low tire pressure warning lamp activate?

YES >> Replace BCM. Refer to BCS-57, "Removal and Installation".

NO >> Check combination meter operation. Refer to MWI-23, "Diagnosis Description".

LOW TIRE PRESSURE WARNING LAMP STAYS ON

< SYMPTOM DIAGNOSIS > LOW TIRE PRESSURE WARNING LAMP STAYS ON Α Low Tire Pressure Warning Lamp Stays On When Ignition Switch Is Turned On В DIAGNOSTIC PROCEDURE 1.BCM CONNECTORS Turn ignition switch OFF. Disconnect BCM harness connectors. Check terminals for damage or loose connections. D Is the inspection result normal? YES >> GO TO 2 NO >> Repair or replace damaged parts. WT 2.BCM POWER SUPPLY AND GROUND CIRCUITS Check BCM power supply and ground circuits. Refer to BCS-33, "Diagnosis Procedure". Is the inspection result normal? F YES >> Replace BCM. Refer to BCS-57, "Removal and Installation". NO >> Repair BCM circuits. Н J K L M Ν 0

LOW TIRE PRESSURE WARNING LAMP BLINKS

< SYMPTOM DIAGNOSIS >

LOW TIRE PRESSURE WARNING LAMP BLINKS

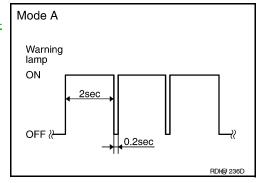
Low Tire Pressure Warning Lamp Flashes When Ignition Switch Is Turned On

INFOID:0000000004064589

NOTE:

If low tire pressure warning lamp flashes as shown, the system is normal. Flash Mode A

This mode shows transmitter status is OFF-mode.
 Carry out transmitter wake up operation. Refer to <u>WT-5</u>. "Transmitter Wake Up Operation".



DIAGNOSTIC PROCEDURE

1. CHECK BCM CONNECTORS

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM harness 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.CHECK TIRE PRESSURE WARNING CHECK CONNECTOR CIRCUIT

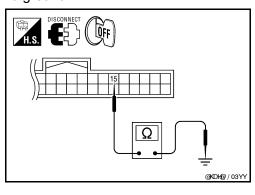
Check continuity between BCM harness connector M18 terminal 15 and ground.

Continuity should not exist.

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-57</u>, "Removal and Installation".

NO >> Repair circuit for short to ground.



HAZARD WARNING LAMPS FLASH

< SYMPTOM DIAGNOSIS >

HAZARD WARNING LAMPS FLASH Hazard Warning Lamps Flash When Ignition Switch Is Turned On DIAGNOSTIC PROCEDURE 1. CHECK BCM GROUND CIRCUIT Check BCM ground circuit. Refer to BCS-33, "Diagnosis Procedure". Is the inspection result normal? YES >> Replace BCM. Refer to BCS-57, "Removal and Installation". NO >> Repair BCM ground circuit.

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ID REGISTRATION CANNOT BE COMPLETED

< SYMPTOM DIAGNOSIS >

ID REGISTRATION CANNOT BE COMPLETED

ID Registration Cannot Be Completed

INFOID:0000000004064591

DIAGNOSTIC PROCEDURE

1. PERFORM ID REGISTRATION OF ALL TRANSMITTERS

Carry out ID registration of all transmitters. Refer to WT-6, "ID Registration Procedure".

Can ID registration of all transmitters be completed?

YES >> Inspection End.

NO >> GO TO WT-14, "Diagnosis Procedure".

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

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

Precaution for work

- After removing and installing the opening/closing parts, be sure to carry out fitting adjustments to check their operation.
- Check the lubrication level, damage, and wear of each part. If necessary, grease or replace it.

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PREPARATION

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PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000004064594

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

Tool number (Kent-Moore No.)		Description
Tool name		
KV991B1000 (J-45295) Transmitter activation tool	V DIG 033D	Transmitter wake up operation ID registration procedure

Commercial Service Tool

INFOID:0000000004064595

Tool name		Description
Power tool		Removing wheel nuts
	CAHB/ 08/ D	

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

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< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

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

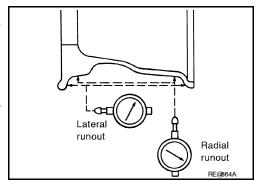
Reference page		WT-44	<u>WT-45</u>	<u>WT-50</u>	<u>WT-46</u>	I	I	WT-50	DLN-149, "NVH Troubleshooting Chart", DLN-183, "NVH Troubleshooting Chart", DLN-217, "NVH Troubleshooting Chart", DLN-248, "NVH Troubleshooting Chart"	FAX-4, "NVH Troubleshooting Chart", ESU-4, "NVH Troubleshooting Chart"	RAX-19. "NVH Troubleshooting Chart", RAX-7. "NVH Troubleshooting Chart", RSU-4. "NVH Troubleshooting Chart"	Refer to TIRES in this chart.	Refer to ROAD WHEEL in this chart.	BR-5, "NVH Troubleshooting Chart"	ST-5, "NVH Troubleshooting Chart"	
Possible cause and SUSPECTED PARTS		Out-of-round	Imbalance	Incorrect tire pressure	Uneven tire wear	Deformation or damage	Non-uniformity	Incorrect tire size	FRONT AND REAR FINAL DRIVE	FRONT AXLE AND FRONT SUSPENSION	REAR AXLE AND REAR SUSPENSION	TIRES	ROAD WHEEL	BRAKE	STEERING	
		Noise	×	×	×	×	×	×		×	×	×	×		×	×
		Shake	×	×	×	×	×		×		×	×	×		×	×
		Vibration			×				×		×	×	×			×
	TIRES	Shimmy	×	×	×	×	×	×	×		×	×	×		×	×
Symptom		Shudder	×	×	×	×	×		×		×	×	×		×	×
		Poor quality ride or handling	×	×	×	×	×		×		×	×	×			
	ROAD WHEEL	Noise	×	×			×			×	×	×		×	×	×
		Shake	×	×			×				×	×		×	×	×
		Shimmy, shudder	×	×			×				×	×		×	×	×
		Poor quality ride or handling	×	×			×				×	×		×		

ON-VEHICLE MAINTENANCE

WHEEL

Inspection INFOID:000000004064597

- 1. Remove wheel and tire using power tool.
- 2. Check tires for wear and improper inflation.
- 3. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.
- Remove tire from wheel and mount wheel on a tire balance machine.
- b. Set dial indicator as shown in the illustration. Refer to <u>WT-50</u>, <u>"Road Wheel"</u>.
- 4. Check front wheel bearings for looseness.
- 5. Check front suspension for looseness.
- 6. Install wheel and tire. Refer to WT-46, "Rotation".



WHEEL AND TIRE ASSEMBLY

< ON-VEHICLE REPAIR >

ON-VEHICLE REPAIR

WHEEL AND TIRE ASSEMBLY

Balancing Wheels

WHEEL BALANCE REMOVAL

- 1. Remove wheel and tire using power tool.
- 2. Using releasing agent, remove double-faced adhesive tape from the wheel.

CAUTION:

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

WHEEL BALANCE INSTALLATION AND ADJUSTMENT

- 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 wheels.
- 1. Set wheel on wheel balancer using the center hole as a guide. Start the tire balance machine.
- 2. When inner and outer imbalance values are shown on the wheel balancer indicator, multiply outer imbalance value by 1.6 to determine balance weight that should be used. Select the outer balance weight with a value closest to the calculated value and install it to the designated outer position of, or at the designated angle in relation to the road wheel.

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.

Indicated imbalance value \times 5/3 = balance weight to be installed Calculation example:

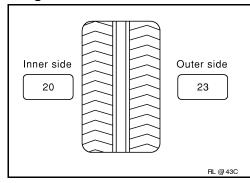
23 g (0.81 oz) \times 5/3 = 38.33 g (1.35 oz) = 40 g (1.41 oz) balance weight (closer to calculated balance weight value)

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

Example:

37.4 g = 35 g (1.23 oz)

37.5 g = 40 g (1.41 oz)



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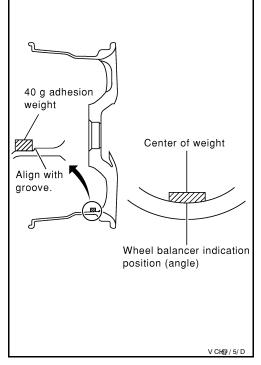
WHEEL AND TIRE ASSEMBLY

< ON-VEHICLE REPAIR >

- a. Install balance weight in the position shown.
- b. When installing balance weight to wheels, set it into the grooved area on the inner wall of the wheel as shown so that the balance weight center is aligned with the wheel balancer indication position (angle).

CAUTION:

- Always use Genuine NISSAN adhesion balance weights.
- Balance weights are not reusable; always replace with new ones.
- · Do not install more than three sheets of balance weights.



 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.

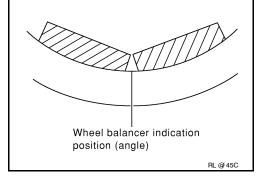
- 3. Start wheel balancer again.
- 4. Install drive-in balance weight on inner side of road wheel in the wheel balancer indication position (angle).

CAUTION:

Do not install more than two balance weights.

- 5. Start wheel balancer. Make sure that inner and outer residual imbalance values are 5 g (0.18 oz) each or below.
 - If either residual imbalance value exceeds 5 g (0.18 oz), repeat installation procedures.

Wheel balance (Maximum allowable imbalance):



Maximum allowable imbalance	Dynamic (At rim flange)	5 g (0.18 oz) (one side)			
Maximum anowable imparance	Static	10 g (0.35 oz)			

Rotation

NOTE:

Follow the maintenance schedule for tire rotation service intervals. Refer to MA-7, "Schedule 1".

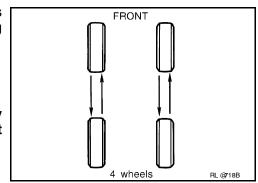
- 1. Remove wheels and tires.
- Rotate wheels and tires on each side from front to back as shown. Do not include the spare wheel and tire when rotating the wheels and tires.

Wheel nut : 133 N·m (14 kg-m, 98 ft-lb)

CAUTION:

When installing wheels and tires, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.

3. Adjust the tire pressure to specification. Refer to WT-50, "Tire".



WHEEL AND TIRE ASSEMBLY

(DN-VEHICLE REPAIR >	
1.	After the wheel and tire rotation, retighten the wheel nuts after the vehicle has been driven for 1,000 km (600 miles), and also after any wheel and tire has been installed, such as after repairing a flat tire.	Α
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REMOVAL AND INSTALLATION

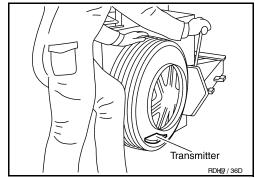
REMOVAL AND INSTALLATION

Transmitter (Pressure Sensor)

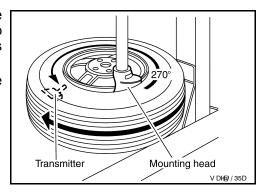
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REMOVAL

- 1. Remove wheel and tire using power tool.
- 2. Deflate tire. Unscrew transmitter retaining nut and allow transmitter to fall into tire.
- Gently bounce tire so that transmitter falls to bottom of tire. Place wheel and tire assembly on tire changing machine and break both tire beads. Ensure that the transmitter remains at the bottom of the tire while breaking the bead.

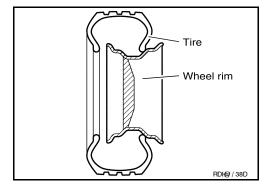


- 4. Turn tire so that valve hole is at bottom, and gently bounce the tire to ensure transmitter is near valve hole. Carefully lift tire onto turntable and position valve hole (and transmitter) 270 degrees from mounting/dismounting head.
- 5. Lubricate tire well, and remove top side of tire. Reach inside the tire and remove the transmitter.
- 6. Remove the second side of the tire as normal.



INSTALLATION

1. Place first side of tire onto wheel rim.



2. Apply suitable silicone lubricant to new transmitter seal then install seal on transmitter. Refer to MA-11, "Fluids and Lubricants".

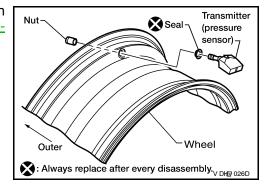
NOTE:

Always replace the seal after every disassembly.

3. Mount transmitter on rim and tighten nut to specification. **NOTE:**

Make sure no burrs exist in the valve stem hole of the wheel.

Transmitter nut : 7.7 N·m (0.79 kg-m, 68 in-lb)



REMOVAL AND INSTALLATION

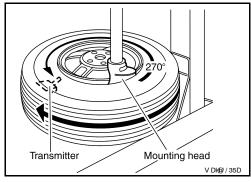
< REMOVAL AND INSTALLATION >

4. 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.

5. Lubricate tire well, and install second side of tire as normal. Ensure that tire does not rotate relative to rim.



- 6. Inflate tire and balance the wheel and tire assembly. Refer to WT-45, "Balancing Wheels".
- 7. Install wheel and tire assembly in appropriate wheel position on vehicle. **NOTE:**

If replacing transmitter, transmitter wake up operation must be performed. Refer to <u>WT-5</u>, "<u>Transmitter</u> <u>Wake Up Operation</u>".

8. Adjust neutral position of steering angle sensor. Refer to <u>BRC-115</u>, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION: Special Repair Requirement".

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SERVICE DATA AND SPECIFICATIONS (SDS)

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SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Road Wheel

Wheel type		Aluminum	Steel				
		Aluminum	Inside	Outside			
Maximum radial	Lateral mm (in)	0.3 (0.012) or less	0.8 (0.031) or less	0.8 (0.031) or less			
runout limit	Radial mm (in)	0.3 (0.012) or less	0.6 (0.024) or less	0.6 (0.024) or less			
Maximum residual im-	Dynamic (at rim flange)	Less than 5 g (0.18 oz) (per side)					
balance	Static (at rim flange)	Less than 10 g (0.35 oz)					

Tire (NFOID:000000004064602

Unit: kPa (kg/cm², psi)

Tivo oimo	Air pre	essure
Tire size	Conventional tire	Spare tire
Full size spare tire	_	240 (2.4, 35)
P265/70R16	240 (2.4, 35)	-
P265/75R16	240 (2.4, 35)	-
P265/65R17	240 (2.4, 35)	_