WT

D

CONTENTS

| BASIC INSPECTION3 | Special Repair Requirement17 |
|---|---|
| DIAGNOSIS AND REPAIR WORKFLOW3 | C1729 VEHICLE SPEED SIGNAL18 |
| Repair Work Flow3 | Description18 DTC Logic18 |
| INSPECTION AND ADJUSTMENT5 | Vehicle Speed Signal18 |
| Preliminary Check5 | |
| Transmitter Wake Up Operation5 | ECU DIAGNOSIS19 |
| ID Registration Procedure6 | DCM (BODY CONTROL MODULE) |
| FUNCTION DIAGNOSIS8 | BCM (BODY CONTROL MODULE)19 Terminals and Reference Values (BCM)19 |
| FUNCTION DIAGNOSIS8 | Wiring Diagram19 |
| TPMS8 | Self-Diagnosis21 |
| System Diagram8 | Flash Code Chart22 |
| System Description8 | |
| System Component9 | SYMPTOM DIAGNOSIS24 |
| DIAGNOSIS SYSTEM (BCM)11 | TPMS24 |
| CONSULT-III Function (BCM)11 | Symptom Table24 |
| Self-Diagnosis11 | |
| - | LOW TIRE PRESSURE WARNING LAMP |
| COMPONENT DIAGNOSIS13 | DOES NOT TURN ON25 |
| C1708 - C1711 DATA FROM TRANSMITTER | Low Tire Pressure Warning Lamp Does Not Come On When Ignition Switch Is Turned On25 |
| NOT BEING RECEIVED13 | LOW TIRE PRESSURE WARNING LAMP |
| Description | STAYS ON26 |
| Data from Transmitter Not Being Received13 | Low Tire Pressure Warning Lamp Stays On When |
| Special Repair Requirement14 | Ignition Switch Is Turned On26 |
| | |
| C1712 - C1715, C1720 - C1723, C1724 - C1727 TRANSMITTER MALFUNCTION15 | LOW TIRE PRESSURE WARNING LAMP BLINKS27 |
| Description | Low Tire Pressure Warning Lamp Flashes When |
| DTC Logic15 | Ignition Switch Is Turned On27 |
| Transmitter Malfunction15 | |
| Special Repair Requirement16 | HAZARD WARNING LAMPS FLASH28 |
| | Hazard Warning Lamps Flash When Ignition |
| C1716 - C1719 TRANSMITTER PRESSURE | Switch Is Turned On28 |
| MALFUNCTION17 | ID REGISTRATION CANNOT BE COMPLET- |
| Description | ED29 |
| Transmitter Pressure Malfunction17 | ID Registration Cannot Be Completed29 |
| Transfirmed Frooding Managiotion | |

| NOISE, VIBRATION, AND HARSHNESS | Inspection33 |
|--|---------------------------------|
| (NVH) TROUBLESHOOTING30 | ON VEHICLE BEDAID |
| NVH Troubleshooting Chart30 | ON-VEHICLE REPAIR34 |
| PRECAUTION | WHEEL AND TIRE ASSEMBLY34 |
| | Balancing Wheels34 |
| PRECAUTIONS31 | Rotation35 |
| Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- | REMOVAL AND INSTALLATION 37 |
| SIONER" 31 | REMOVAL AND INSTALLATION 37 |
| Precaution for work | Transmitter (Pressure Sensor) |
| PREPARATION 32 | SERVICE DATA AND SPECIFICATIONS |
| PREPARATION32 | (SDS) |
| Special Service Tool | SERVICE DATA AND SPECIFICATIONS |
| ON-VEHICLE MAINTENANCE 33 | (SDS) |
| | Road Wheel39 |
| WHEEL33 | Tire |

Α

В

D

Н

Ν

0

Р

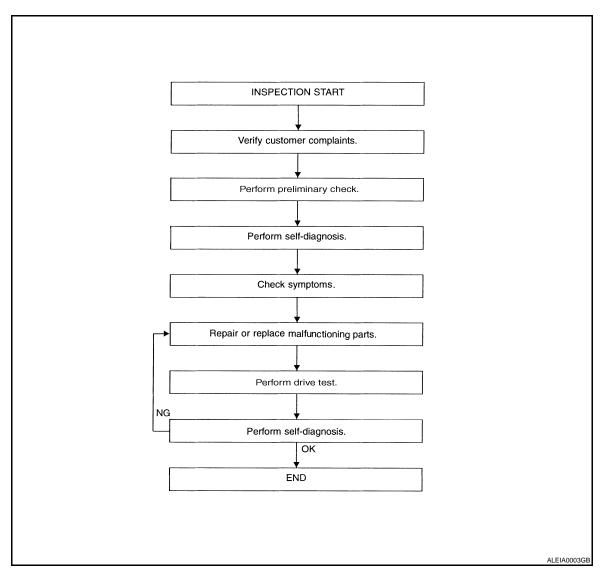
INFOID:0000000003220942

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Repair Work Flow

WORK FLOW



WT-5, "Preliminary Check"

WT-11, "Self-Diagnosis"

WT-24, "Symptom Table"

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"

>> GO TO 3

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

3. SELF-DIAGNOSIS

Perform SELF-DIAGNOSIS. Refer to <u>WT-11, "Self-Diagnosis"</u> (with CONSULT-III) or <u>WT-22, "Flash Code Chart"</u> (without CONSULT-III).

>> GO TO 4

4.SYMPTOM

Check for symptoms. Refer to WT-24, "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.

Are any DTC's displayed?

YES >> GO TO 5

NO >> INSPECTION END

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

INSPECTION AND ADJUSTMENT

Preliminary Check

INFOID:0000000003220943

1. TIRE PRESSURE

В

Check all tire pressures. Refer to WT-39, "Tire".

Do tire pressures match specification?

YES >> GO TO 2.

NO >> Adjust tire pressures to specified value.

2.LOW TIRE PRESSURE WARNING LAMP

D

Α

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.

NO

>> GO TO <u>WT-25, "Low Tire Pressure Warning Lamp Does Not Come On When Ignition Switch Is Turned On".</u>

3.BCM CONNECTOR

F

WT

- 1. Disconnect BCM harness connectors.
- 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.

Н

4. TRANSMITTER ACTIVATION TOOL

Check battery in transmitter activation tool.

Is transmitter activation tool battery fully charged?

YES >> Perform self-diagnosis. Refer to WT-21, "Self-Diagnosis".

NO >> Replace battery in transmitter activation tool.

INFOID:0000000003220944

Transmitter Wake Up Operation

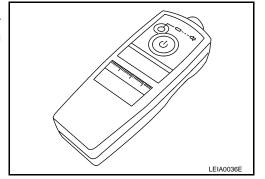
NOTE:

ı

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.

P

L

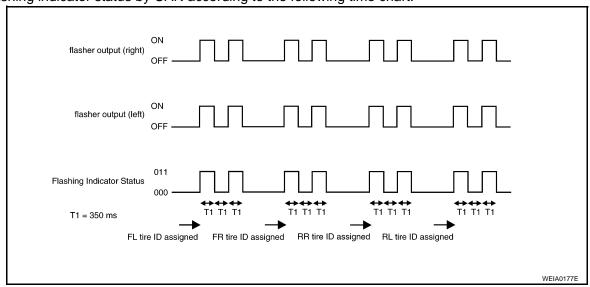
M

N

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:0000000003220945

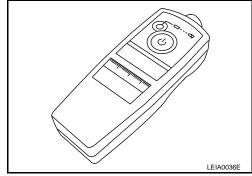
ID REGISTRATION WITH TRANSMITTER ACTIVATION TOOL

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)



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 times hashing | DONE |
| 4 | Rear LH | | |

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.
- Select ID REGIST under BCM. 2.

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) |

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

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

Inflate all tires to proper pressure. Refer to WT-39, "Tire".

В

C

D

WT

Н

K

L

M

Ν

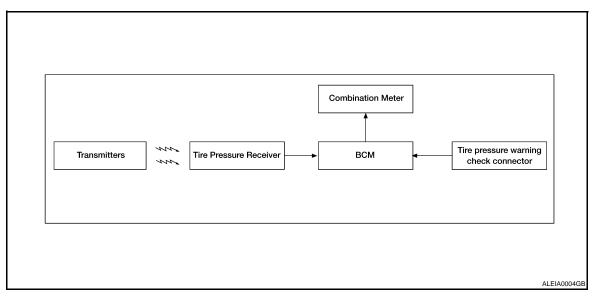
0

FUNCTION DIAGNOSIS

TPMS

System Diagram

INFOID:0000000003220946



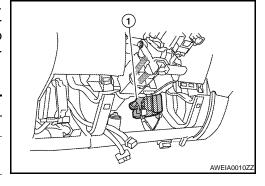
System Description

INFOID:0000000003220947

BODY CONTROL MODULE (BCM)

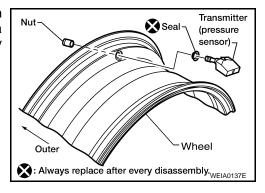
The BCM (1) is shown with the lower instrument panel LH removed. The BCM reads the air pressure signal received by the remote keyless entry receiver, and controls the low tire pressure warning lamp as shown below. It also has a self-diagnosis function to detect a system malfunction.

| 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

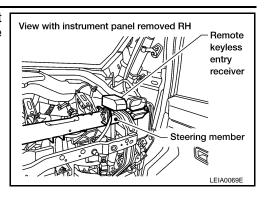
A sensor-transmitter integrated with a valve is installed in each wheel, and transmits a detected air pressure signal in the form of a radio wave. The radio signal is received by the remote keyless entry receiver.



REMOTE KEYLESS ENTRY RECEIVER

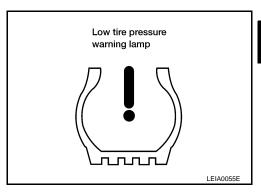
< FUNCTION DIAGNOSIS >

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

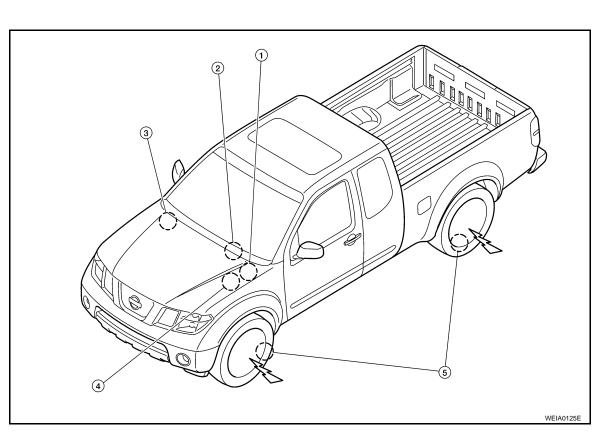
The combination meter receives tire pressure status from the BCM using CAN communication. When a low tire pressure condition is sensed by the BCM, the combination meter low tire pressure warning lamp is activated.



TIRE PRESSURE WARNING CHECK CONNECTOR

The tire pressure warning check connector can be grounded in order to initiate self-diagnosis without a CON-SULT-III. The tire pressure warning check connector is located behind the lower portion of the instrument panel LH.

System Component



WT

D

Α

В

F

G

INFOID:0000000003292973

K

L

M

Ν

0

TPMS

< FUNCTION DIAGNOSIS >

- 1. BCM M18, M20
- 2. Combination meter M24
- Tire pressure warning check connec- 5. Transmitters tor M123
- 3. Remote keyless entry receiver M120

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

CONSULT-III Function (BCM)

INFOID:0000000003220949

Α

В

D

Н

M

Ν

Р

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-DIAG RESULTS | Displays BCM self-diagnosis results. |
| CAN DIAG SUPPORT MNTR | The result of transmit/receive diagnosis of CAN communication can be read. |
| ECU PART NUMBER | BCM part number can be read. |
| CONFIGURATION | Performs BCM configuration read/write functions. |

Self-Diagnosis INFOID:0000000003220950

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 | × | × |

x: Applicable

Data Monitor Mode

| MONITOR | CONDITION | SPECIFICATION | (|
|--|--|-----------------------------|---|
| VHCL 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) | |

WT-11

^{-:} 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 | | Low tire pressure warning lamp on: ON Low tire pressure warning lamp 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.

C1708 - C1711 DATA FROM TRANSMITTER NOT BEING RECEIVED

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

C1708 - C1711 DATA FROM TRANSMITTER NOT BEING RECEIVED

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

DTC Logic

DTC DETECTION LOGIC

Description

| 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.
- 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-13, "Data from Transmitter Not Being Received". NO

Data from Transmitter Not Being Received

MALFUNCTION CODE NO. 21, 22, 23 or 24

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-49, "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?

YES >> Replace malfunctioning transmitter, then GO TO 5. Refer to WT-37, "Transmitter (Pressure Sensor)".

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?

WT-13

Α

В

INFOID:0000000003220951

INFOID:0000000003220952

D

WT

Н

INFOID:0000000003220953

N

C1708 - C1711 DATA FROM TRANSMITTER NOT BEING RECEIVED

< COMPONENT DIAGNOSIS >

YES >> Inspection End.

NO >> GO TO 5

5. 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 >> Proceed to the inspection applicable to DTC.

Special Repair Requirement

INFOID:0000000003220954

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

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

< COMPONENT DIAGNOSIS >

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

Description INFOID:0000000003220955

One or more transmitters are malfunctioning internally.

DTC Logic INFOID:0000000003220956

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1. DRIVE VEHICLE

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.

>> Refer to WT-15, "Transmitter Malfunction". NO

Transmitter Malfunction

MALFUNCTION CODE NO. 31 - 34, 41 - 44, 45 - 48

1.PERFORM ID REGISTRATION

- 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

- Check low tire pressure warning lamp again for flashing, replace malfunctioning transmitter. Refer to WT-37, "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-13, "Data from Transmitter Not Being Received".

3.DRIVE VEHICLE

D

В

Н

K

L

INFOID:0000000003220957

M

Ν

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

< COMPONENT DIAGNOSIS >

- 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

INFOID:0000000003220958

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

C1716 - C1719 TRANSMITTER PRESSURE MALFUNCTION

< COMPONENT DIAGNOSIS >

C1716 - C1719 TRANSMITTER PRESSURE MALFUNCTION

Description INFOID:0000000003220959

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

DTC Logic INFOID:00000000003220960

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

${f 1}$.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.
- 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-17, "Transmitter Pressure Malfunction". NO

Transmitter Pressure Malfunction

MALFUNCTION CODE NO. 35 - 38

CHECK ALL TIRE PRESSURES

Check all tire pressures. Refer to WT-39, "Tire".

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

YES >> Adjust tire pressure to specified value.

NO >> GO TO 2

2.ID REGISTRATION AND VEHICLE DRIVING

- 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 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-37, "Transmitter (Pressure Sensor)". GO TO 3.

NO >> GO TO 3

3.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.
- 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.

>> Proceed to the inspection applicable to DTC. NO

Special Repair Requirement

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

WT-17

WT

D

Α

В

Н

INFOID:0000000000322096:

M

Ν

Р

INFOID:0000000003220962

C1729 VEHICLE SPEED SIGNAL

< COMPONENT DIAGNOSIS >

C1729 VEHICLE SPEED SIGNAL

Description

The vehicle speed signal is not being detected by the BCM.

DTC Logic

DTC DETECTION LOGIC

| DTC | CONSULT - III | DTC detecting condition |
|-------|--------------------|-----------------------------------|
| C1729 | VHCL SPEED SIG ERR | Vehicle speed signal is in error. |

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

YES >> Refer to WT-18, "Vehicle Speed Signal".

NO >> Inspection end.

Vehicle Speed Signal

INFOID:0000000003220965

MALFUNCTION CODE NO. 52

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

YES >> Perform trouble diagnosis for CAN communication system. Refer to XX-XX, *****.

NO >> Check combination meter. Refer to XX-XX, *****.

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Terminals and Reference Values (BCM)

Refer to BCS-34, "Reference Value".

Wiring Diagram

- DATA I INF

WT

 D

Α

В

INFOID:0000000003220966

INFOID:0000000003292974

F

Н

J

Κ

L

M

Ν

0

Р

| SOLID | STATERY | CONTINUE | STATERY | STATERY | CONTINUE | STATERY |

TIRE PRESSURE MONITORING SYSTEM

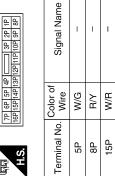
AWEWA0008GI

TIRE PRESSURE MONITORING SYSTEM CONNECTORS

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

| | | 1P | 8P | 1 |
|---|---|----|-----|---|
| | | 2P | 96 | l |
| | | 3P | 10P | l |
| | | П | 11P | l |
| ш | | Ш | 12P | l |
| = | | 4P | 13P | l |
| × | | 5P | 14P | l |
| _ | i | 99 | 15P | l |
| 응 | | 7P | 16P | l |
| 2 | | | | J |





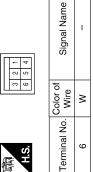
| M6 | WIRE TO WIRE | WHITE | |
|---------------|-----------------------------|-----------------|--|
| Connector No. | Connector Name WIRE TO WIRE | Connector Color | |

Connector Name BCM (BODY CONTROL MODULE) WHITE

Connector Color

M18

Connector No.



| | 9 10 11 12 13 14 15 16 17 18 19 20 | 39 40 | | | | KEYLESS&AUTO LIGHT SENSOR GND | . . | | | | | |
|---|------------------------------------|-------------------------------|---|------------------|-------------------------|----------------------------------|-------------------------------|----------|-------------------------|--------|-------|------|
| | 18 | 38 39 | | | ш ≥ | ĭş | KEYLESS TUNER POWER SUPPLY | | KEYLESS TUNER SIGNAL | | | |
| | 17 | 28 29 30 31 32 33 34 35 36 37 | | Signal Name | TMPS MODE TRIGGER SW | ESS&AUTO LI SENSOR GND | 5 🗄 | \vdash | 5 _ | > | l ∓l | |
| | 16 | 8 | | l g | ĕ ä | ڳ ۾ | ĭ. SU | OUTPUT | ESS TU SIGNAL | IGN SW | CAN-H | 1440 |
| | 15 | 33 | | ਲ | က ထို | 8A SC | SS | 片 | SS 12 | ᅜ | ∣⊼ | 2 |
| | 14 | 뚕 | | E | 들 | S Z | ᄪᄬ | ō | ᄪᅈ | = | | |
| | 13 | 88 | | S | 두 뜯 | 贸易 | l≅≳ | | ∑ | | | |
| | 12 | 88 | | | | Ϋ́ | 쮸 꾼 | | 뿔 | | | |
| | 11 | 31 | | | | Ü | | | | | | |
| | 10 | 8 | - | | | | | | | | | |
| | | ଝ | | Color of Wire | _ | ~ | | | | ے ا | | |
| | 8 | 88 | | Solor o Wire | > | BR | > | | _ O | W/B | | |
| | 7 | 21 22 23 24 25 26 27 | | ŏ ~ | | | | | | _ | | |
| | 9 | 92 | | o. | | | | | | | | |
| | 2 | 52 | | Z | | | | | | | | |
| | 4 | 3 5 | | <u> </u> | 15 | 18 | 19 | | 28 | 88 | 39 | • |
| | 2 3 | 22 | | Terminal No. | - | _ | _ | | L CU | (') | ارن ا | |
| | CA | 23 | | e. | | | | | | | | |
| l | - | 7 | | L⊢_ | | | | | | | | |

| | Signal Name |
|--|-------------------|
| | Color of Wire |
| | Terminal No. Wire |
| | |

| Signal Name | BATTERY | CAN-L | CAN-H | GROUND | RUN START | GND (POWER) |
|------------------|---------|-------|-------|--------|-----------|-------------|
| Color of Wire | R/Y | ۵ | _ | GR | M/G | В |
| Terminal No. | ဇ | = | 12 | 13 | 16 | 23 |



Connector Name BCM (BODY CONTROL MODULE)

Connector No.

BLACK

Connector Color





| Signal Name | GND (POWER) | BAT (F/L) |
|------------------|-------------|-----------|
| Color of Wire | В | Χ |
| Terminal No. | 29 | 20 |

AWEIA0026GB

Α

В

С

D

G

Н

Κ

L

M

Ν

0

| NE TO WIRE | I |
|--|---|
| me WIR Ior WHI | ≯ |
| Connector No. E10 Connector Name WIRE TO WIRE Connector Color WHITE #\$3. Terminal No. Golor of Signal | 9 |

| Connector No. |). M123 | 23 |
|-----------------------|------------------|--|
| Connector Na | ame TIR | Connector Name TIRE PRESSURE WARNING CHECK CONNECTOR |
| Connector Color WHITE | olor WH | <u> </u> |
| 所.S. | | |
| Terminal No. | Color of Wire | Signal Name |
| - | > | LOW_TIRE |

| Connector No. |). M120 | 0 |
|-----------------------|------------------|----------------------------------|
| Connector Name | | REMOTE KEYLESS ENTRY RECEIVER |
| Connector Color WHITE | olor WHI | 11 |
| S.H | | 4 |
| Terminal No. | Color of Wire | Signal Name |
| - | BR | GND |
| 2 | В | SIGNAL |
| 4 | ۸ | PWR |

Self-Diagnosis

NFOID:000000003220968

FUNCTION

Self-Diagnostic Results Mode

< 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-13</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-15</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-17</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-15</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-15</u> |
| VHCL_SPEED_SIG_ERR [C1729] | Vehicle speed signal is in error. | <u>WT-18</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.

Flash Code Chart

NOTE:

Ground tire pressure warning check connector to initiate self-diagnosis w/o CONSULT-III.

| 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-13</u> |
| 31 32 33 34 | Transmitter checksum error (FL) Transmitter checksum error (FR) Transmitter checksum error (RR) Transmitter checksum error (RL) | <u>WT-15</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-17</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-15</u> |

BCM (BODY CONTROL MODULE)

< ECU 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-15</u> |
| 52 | Vehicle speed signal | <u>WT-18</u> |

Α

В

С

D

 WT

F

G

Н

J

Κ

L

M

Ν

0

Ρ

TPMS

SYMPTOM DIAGNOSIS > SYMPTOM DIAGNOSIS

TPMS

Symptom Table INFOID:0000000003220970

| Symptom | | | | | |
|--|--------------|--|--|--|--|
| Low tire pressure warning lamp does not come on when ignition switch is turned on. | | | | | |
| Low tire pressure warning lamp stays on when ignition switch is turned on. | <u>WT-26</u> | | | | |
| Low tire pressure warning lamp flashes when ignition switch is turned on. | | | | | |
| Hazard warning lamps flash when ignition switch is turned on. | <u>WT-28</u> | | | | |
| ID registration cannot be completed. | <u>WT-29</u> | | | | |
| NVH troubleshooting chart. | <u>WT-30</u> | | | | |

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 | |
| DIAGNOSTIC PROCEDURE 1.SELF-DIAGNOSTIC RESULT CHECK | В _ С |
| 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 | D |
| 2.CHECK COMBINATION METER Check combination meter operation. Refer to MWI-24, "CONSULT-III Function (METER/M&A)". Inspection results OK? YES >> GO TO 3 | – WT |
| NO >> Replace combination meter. Refer to MWI-91 , "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-49, "Removal and Installation". NO >> Check combination meter operation. | G H |
| | l J |
| | K |
| | L |
| | M |
| | Ν |
| | 0 |
| | Р |

LOW TIRE PRESSURE WARNING LAMP STAYS ON

< SYMPTOM DIAGNOSIS >

LOW TIRE PRESSURE WARNING LAMP STAYS ON

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

INFOID:0000000003220972

DIAGNOSTIC PROCEDURE

1.BCM CONNECTORS

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

Are any of the BCM connectors loose or damaged?

YES >> Repair or replace damaged parts.

NO >> GO TO 2

2.BCM POWER SUPPLY AND GROUND CIRCUITS

Check BCM power supply and ground circuits. Refer to BCS-27, "Diagnosis Procedure".

Are the BCM power supply and ground circuits OK?

YES >> Replace BCM. Refer to BCS-49, "Removal and Installation".

NO >> Repair BCM circuits.

LOW TIRE PRESSURE WARNING LAMP BLINKS

< SYMPTOM DIAGNOSIS >

LOW TIRE PRESSURE WARNING LAMP BLINKS

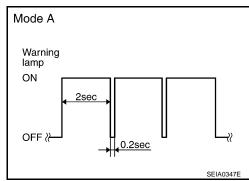
Low Tire Pressure Warning Lamp Flashes When Ignition Switch Is Turned On

INFOID:0000000003220973

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>, "<u>Transmitter Wake Up Operation</u>".



DIAGNOSTIC PROCEDURE

1. CHECK BCM CONNECTORS

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

Inspection results OK?

YES >> GO TO 2

NO >> Repair or replace damaged parts.

2.CHECK TIRE PRESSURE WARNING CHECK CONNECTOR CIRCUIT

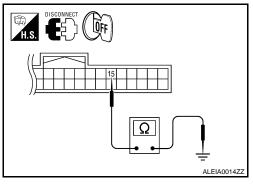
Check continuity between BCM harness connector M18 terminal 15 and ground.

Continuity should not exist.

Does continuity exist?

YES >> Repair circuit for short to ground.

NO >> Replace BCM. Refer to <u>BCS-49</u>, "Removal and Installation".



В

C

Α

D

WT

-

Н

K

Ν

M

HAZARD WARNING LAMPS FLASH

< SYMPTOM DIAGNOSIS >

HAZARD WARNING LAMPS FLASH

Hazard Warning Lamps Flash When Ignition Switch Is Turned On

INFOID:0000000003220974

DIAGNOSTIC PROCEDURE

1. CHECK BCM GROUND CIRCUIT

Check BCM ground circuit. Refer to BCS-27, "Diagnosis Procedure".

Is BCM ground circuit OK?

YES >> Replace BCM. Refer to BCS-49, "Removal and Installation".

NO >> Repair BCM ground circuit.

ID REGISTRATION CANNOT BE COMPLETED

< SYMPTOM DIAGNOSIS >

ID REGISTRATION CANNOT BE COMPLETED ID Registration Cannot Be Completed 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-13, "Data from Transmitter Not Being Received".

WT

Н

J

Κ

L

M

Ν

0

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:0000000003302325

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

| Reference | page | | <u>WT-33</u> | <u>WT-34</u> | <u>WT-39</u> | <u>WT-35</u> | Ŧ | Ŧ | <u>WT-39</u> | DLN-172, "NVH Troubleshooting Chart" (R180A), DLN-206, "NVH Troubleshooting Chart" (C200), DLN-240, "NVH Troubleshooting Chart" (M226) | FAX-4, "NVH Troubleshooting Chart", FSU-4, "NVH Troubleshooting Chart" | RAX-6, "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 ca | ause and S | USPECTED 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 | × | × | × | × | × | | × | | × | × | × | | × | × |
| Symptom | | Poor quality ride or handling | × | × | × | × | × | | × | | × | × | × | | | |
| | Noise | × | × | | | × | | | × | × | × | | × | × | × | |
| ROAD | | Shake | × | × | | | × | | | | × | × | | × | × | × |
| | WHEEL | Shimmy, shudder | × | × | | | × | | | | × | × | | × | × | × |
| | | Poor quality ride or handling | × | × | | | × | | | | × | × | | × | | |

^{×:} Applicable

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.

WT

D

Α

В

0

11

ī

Κ

L

M

Ν

0

PREPARATION

INFOID:0000000003220979

< PREPARATION >

PREPARATION

PREPARATION

Special Service Tool

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

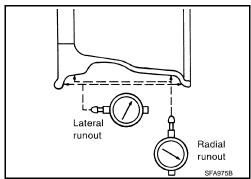
| Tool number (Kent-Moore No.) Tool name | | Description |
|--|-----------|---|
| KV991B1000 (J-45295) Transmitter activation tool | WEIA0144E | Transmitter wake up operation ID registration procedure |

ON-VEHICLE MAINTENANCE

WHEEL

Inspection INFOID:0000000003302319

- 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.
- a. 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-39</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-35, "Rotation".



D

Α

В

C

WT

F

G

Н

l

J

K

L

M

Ν

0

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:

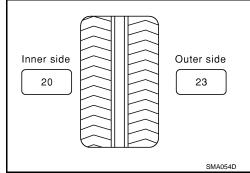
23 g $(0.81 \text{ oz}) \times 5/3 = 38.33 \text{ g} (1.35 \text{ oz}) = 40 \text{ g} (1.41 \text{ oz})$ balance weight (closer to calculated balance weight value)

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)



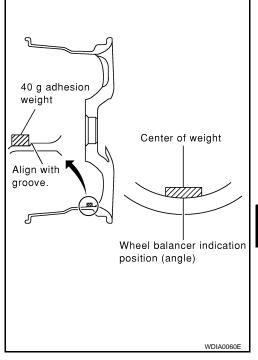
WHEEL AND TIRE ASSEMBLY

< 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.

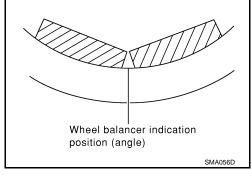
- 3. Start wheel balancer again.
- 4. Install drive-in balance weight on inner side of road wheel in the wheel balancer indication position (angle).

CAUTION:

Do not install more than two balance weights.

- 5. Start wheel balancer. Make sure that inner and outer residual imbalance values are 5g (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) | | | |
|-----------------------------|-------------------------|--------------------------|--|--|--|
| | Static | 10 g (0.35 oz) | | | |

Rotation INFOID:000000003302321

NOTE

Follow the maintenance schedule for tire rotation service intervals. Refer to MA-4, "General Maintenance".

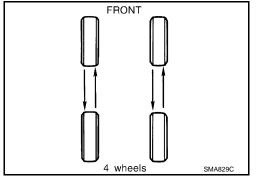
- 1. Remove wheels and tires.
- Rotate wheels and tires on each side from front to back as shown. Do not include the spare wheel and tire when rotating the wheels and tires.

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-39, "Tire".



А

В

С

D

WT

_

G

Н

J

K

L

NΛ

N

0

WHEEL AND TIRE ASSEMBLY

< ON-VEHICLE REPAIR >

4. 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.

REMOVAL AND INSTALLATION

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

REMOVAL AND INSTALLATION

Transmitter (Pressure Sensor)

INFOID:0000000003302322

Α

В

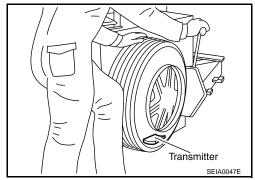
D

WT

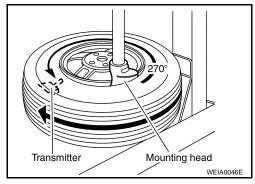
Н

REMOVAL

- 1. Remove wheel and tire using power tool.
- 2. Deflate tire. Unscrew transmitter retaining nut and allow transmitter to fall into tire.
- 3. 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.

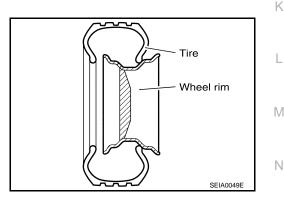


- 4. Turn tire so that valve hole is at bottom, and gently bounce the tire to ensure transmitter is near valve hole. Carefully lift tire onto turntable and position valve hole (and transmitter) 270 degrees from mounting/dismounting head.
- 5. Lubricate tire well, and remove top side of tire. Reach inside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



INSTALLATION

1. Place first side of tire onto rim.



2. Apply suitable silicone lubricant to new transmitter seal then install seal on transmitter. Refer to MA-12. "Fluids and Lubricants".

NOTE:

Always replace the seal after every disassembly.

REMOVAL AND INSTALLATION

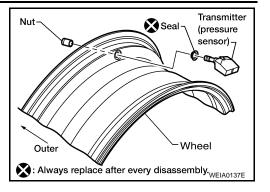
< REMOVAL AND INSTALLATION >

Mount transmitter on rim using a new gasket and tighten nut. NOTE:

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

Transmitter nut tightening torque

: 5.5 N·m (0.56 kg-m, 49 in-lb)



4. Place wheel on turntable of tire machine. Ensure that transmitter is 270 degrees from mounting/dismounting head.

NOTE:

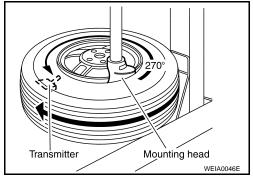
Do not touch transmitter with mounting head.

- 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-34, "Balancing Wheels".
- 7. Install wheel and tire assembly in appropriate wheel position on vehicle.

NOTE:

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

8. Adjust neutral position of steering angle sensor. Refer to <u>BRC-163</u>, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION: Special Repair Requirement".



SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

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 | | | | |
| Maximum residual imbalance | 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:000000003302324

Unit: kPa (kg/cm², psi)

| Tire size | Air pi | ressure |
|----------------------|-------------------|---------------|
| 1116 2126 | Conventional tire | Spare tire |
| Full size spare tire | _ | 240 (2.4, 35) |
| P235/75R15 | 240 (2.4, 35) | _ |
| P265/70R16 | 240 (2.4, 35) | _ |
| P265/75R16 | 240 (2.4, 35) | _ |
| P265/65R17 | 240 (2.4, 35) | _ |

Α

В

C

D

WT

G

Н

J

L

K

M

Ν

0