

WT  
**SECTION**  
**ROAD WHEELS & TIRES**

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D

WT

**CONTENTS**

|  |  |
|--|--|
| <p><b>PREPARATION</b> ..... 2</p> <p style="padding-left: 20px;">Special Service Tool ..... 2</p> <p style="padding-left: 20px;">Commercial Service Tools ..... 2</p> <p><b>NOISE, VIBRATION, AND HARSHNESS (NVH)</b></p> <p><b>TROUBLESHOOTING</b> ..... 3</p> <p style="padding-left: 20px;">NVH Troubleshooting Chart ..... 3</p> <p><b>WHEEL</b> ..... 4</p> <p style="padding-left: 20px;">Inspection ..... 4</p> <p><b>WHEEL AND TIRE ASSEMBLY</b> ..... 5</p> <p style="padding-left: 20px;">Balancing Wheels ..... 5</p> <p style="padding-left: 40px;">REMOVAL ..... 5</p> <p style="padding-left: 40px;">WHEEL BALANCE ADJUSTMENT ..... 5</p> <p style="padding-left: 20px;">Rotation ..... 6</p> <p><b>LOW TIRE PRESSURE WARNING SYSTEM</b> ..... 7</p> <p style="padding-left: 20px;">System Components ..... 7</p> <p style="padding-left: 20px;">System Description ..... 7</p> <p style="padding-left: 40px;">TRANSMITTER ..... 7</p> <p style="padding-left: 40px;">REMOTE KEYLESS ENTRY RECEIVER ..... 7</p> <p style="padding-left: 40px;">BCM (BODY CONTROL MODULE) ..... 8</p> <p style="padding-left: 40px;">WARNING LAMP AND BUZZER ..... 8</p> <p style="padding-left: 40px;">DISPLAY UNIT (WITH NAVI) ..... 8</p> <p><b>CAN COMMUNICATION</b> ..... 9</p> <p style="padding-left: 20px;">System Description ..... 9</p> <p><b>TROUBLE DIAGNOSES</b> ..... 10</p> <p style="padding-left: 20px;">Wiring Diagram ..... 10</p> <p style="padding-left: 20px;">Control Unit Input/Output Signal Standard ..... 12</p> <p style="padding-left: 20px;">ID Registration Procedure ..... 13</p> <p style="padding-left: 40px;">ID REGISTRATION WITH TRANSMITTER</p> <p style="padding-left: 60px;">ACTIVATION TOOL ..... 13</p> <p style="padding-left: 60px;">ID REGISTRATION WITHOUT TRANSMITTER</p> <p style="padding-left: 60px;">ACTIVATION TOOL ..... 14</p> <p style="padding-left: 20px;">Transmitter Wake Up Operation ..... 15</p> <p style="padding-left: 40px;">WITH TRANSMITTER ACTIVATION TOOL ..... 15</p> <p style="padding-left: 20px;">Self-Diagnosis ..... 16</p> <p style="padding-left: 40px;">DESCRIPTION ..... 16</p> <p style="padding-left: 40px;">FUNCTION ..... 16</p> <p style="padding-left: 40px;">CONSULT-II MAIN FUNCTION ..... 16</p> | <p style="padding-left: 20px;">..... 16</p> <p style="padding-left: 20px;">How to Perform Trouble Diagnosis for Quick and</p> <p style="padding-left: 40px;">Accurate Repair ..... 18</p> <p style="padding-left: 40px;">INTRODUCTION ..... 18</p> <p style="padding-left: 40px;">WORK FLOW ..... 18</p> <p style="padding-left: 40px;">Preliminary Check ..... 19</p> <p style="padding-left: 40px;">Malfunction Code/Symptom Chart ..... 20</p> <p><b>TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC</b></p> <p><b>ITEMS</b> ..... 22</p> <p style="padding-left: 20px;">Inspection 1: Transmitter or Control Unit (BCM) .... 22</p> <p style="padding-left: 40px;">MALFUNCTION CODE NO. 21, 22, 23 OR 24 ... 22</p> <p style="padding-left: 20px;">Inspection 2: Transmitter - 1 ..... 22</p> <p style="padding-left: 40px;">MALFUNCTION CODE NO. 31, 32, 33, 34, 41,</p> <p style="padding-left: 60px;">42, 43, 44, 45, 46, 47 OR 48 ..... 22</p> <p style="padding-left: 20px;">Inspection 3: Transmitter - 2 ..... 23</p> <p style="padding-left: 40px;">MALFUNCTION CODE NO. 35, 36, 37 OR 38 ... 23</p> <p style="padding-left: 20px;">Inspection 4: Vehicle Speed Signal ..... 24</p> <p style="padding-left: 40px;">MALFUNCTION CODE NO. 52 ..... 24</p> <p><b>TROUBLE DIAGNOSIS FOR SYMPTOMS</b> ..... 25</p> <p style="padding-left: 20px;">Inspection 1: Warning Lamp Does Not Come On</p> <p style="padding-left: 40px;">When Ignition Switch Is Turned On ..... 25</p> <p style="padding-left: 20px;">Inspection 2: Warning Lamp Stays On When Ignition</p> <p style="padding-left: 40px;">Switch Is Turned On ..... 25</p> <p style="padding-left: 20px;">Inspection 3: Warning Lamp Flashes When Ignition</p> <p style="padding-left: 40px;">Switch Is Turned On ..... 27</p> <p style="padding-left: 20px;">Inspection 4: Hazard Warning Lamp Flashes When</p> <p style="padding-left: 40px;">Ignition Switch Is Turned On ..... 28</p> <p style="padding-left: 20px;">Inspection 5: "TIRE PRESSURE" Information In</p> <p style="padding-left: 40px;">Display Unit Does Not Exist ..... 29</p> <p style="padding-left: 20px;">Inspection 6: ID Registration Cannot Be Completed.. 29</p> <p><b>REMOVAL AND INSTALLATION</b> ..... 30</p> <p style="padding-left: 20px;">Transmitter (Pressure Sensor) ..... 30</p> <p style="padding-left: 40px;">REMOVAL ..... 30</p> <p style="padding-left: 40px;">INSTALLATION ..... 30</p> <p><b>SERVICE DATA AND SPECIFICATIONS (SDS)</b> ..... 32</p> <p style="padding-left: 20px;">Road Wheel ..... 32</p> <p style="padding-left: 20px;">Tire ..... 32</p> |
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# PREPARATION

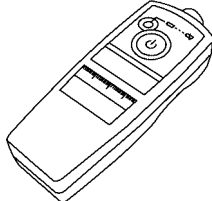
## PREPARATION

PFP:00002

### Special Service Tool

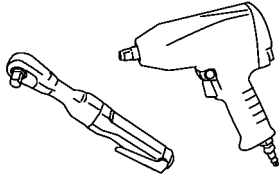
EES000YI

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

| Tool number<br>(Kent-Moore No.)<br>Tool name   | Description     |
|--|-----------------|
| (J-45295)<br>Transmitter activation tool<br><br>LEIA0035E | ID registration |

### Commercial Service Tools

EES000YJ

| Tool name  | Description         |
|--|---------------------|
| Power tool<br><br>PBIC0190E | Removing wheel nuts |

# NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

## NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:00003

### NVH Troubleshooting Chart

EES000YK

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

| Reference page                     |            | <a href="#">WT-4</a>          | <a href="#">WT-5</a> | <a href="#">WT-32</a>   | <a href="#">WT-6</a> | —                     | —              | <a href="#">WT-32</a> | <a href="#">FFD-7, "NVH Troubleshooting Chart",<br/>RFD-9, "NVH Troubleshooting Chart"</a> | <a href="#">FAX-4, "NVH Troubleshooting Chart",<br/>FSU-4, "NVH Troubleshooting Chart"</a> | <a href="#">RAX-4, "NVH Troubleshooting Chart",<br/>RSU-4, "NVH Troubleshooting Chart"</a> | Refer to TIRES in this chart. | Refer to ROAD WHEEL in this chart. | <a href="#">BR-5, "NVH Troubleshooting Chart"</a> | <a href="#">PS-5, "NVH Troubleshooting Chart"</a> |   |
|------------------------------------|------------|-------------------------------|----------------------|-------------------------|----------------------|-----------------------|----------------|-----------------------|--|--|--|-------------------------------|------------------------------------|---|---|---|
| Possible cause and SUSPECTED PARTS |            | Out-of-round                  | Imbalance            | Incorrect tire pressure | Uneven tire wear     | Deformation or damage | Non-uniformity | Incorrect tire size   | DIFFERENTIAL   | FRONT AXLE AND FRONT SUSPENSION  | REAR AXLE AND REAR SUSPENSION  | TIRES                         | ROAD WHEEL                         | BRAKE   | STEERING  |   |
| Symptom                            | TIRES      | Noise                         | x                    | x                       | x                    | x                     | x              | x                     | x  | x  | x  | x                             | x                                  | x   | x   |   |
|                                    |            | Shake                         | x                    | x                       | x                    | x                     | x              | x                     | x  | x  | x  | x                             | x                                  | x   | x   | x |
|                                    |            | Vibration                     |                      |                         | x                    |                       |                |                       | x  |  | x  | x                             | x                                  |   |   | x |
|                                    |            | Shimmy                        | x                    | x                       | x                    | x                     | x              | x                     | x  |  | x  | x                             | x                                  |   | x   | x |
|                                    |            | Judder                        | x                    | x                       | x                    | x                     | x              |                       | x  |  | x  | x                             | x                                  |   | x   | x |
|                                    |            | Poor quality ride or handling | x                    | x                       | x                    | x                     | x              |                       | x  |  | x  | x                             | x                                  |   |   |   |
|                                    | ROAD WHEEL | Noise                         | x                    | x                       |                      |                       | x              |                       |  | x  | x  | x                             |                                    | x   | x   | x |
|                                    |            | Shake                         | x                    | x                       |                      |                       | x              |                       |  |  | x  | x                             |                                    | x   | x   | x |
| Shimmy, judder                     |            | x                             | x                    |                         |                      | x                     |                |                       |  | x  | x  |                               | x                                  | x   | x   |   |
| Poor quality ride or handling      |            | x                             | x                    |                         |                      | x                     |                |                       |  | x  | x  |                               | x                                  |   |   |   |

x: Applicable

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# WHEEL

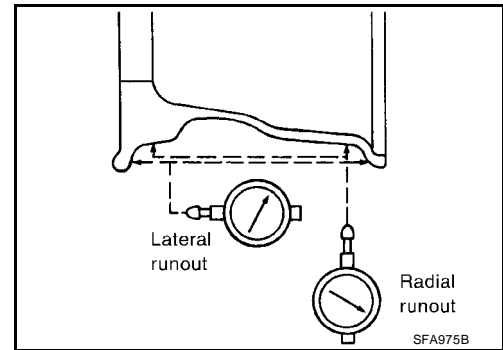
## WHEEL

PFP:40300

### Inspection

EES000YL

1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.
  - a. Remove tire from wheel and mount wheel on a tire balance machine.
  - b. Set dial indicator as shown in the illustration. Refer to [WT-32, "Road Wheel"](#).
3. Check front wheel bearings for looseness.
4. Check front suspension for looseness.



# WHEEL AND TIRE ASSEMBLY

PF:40300

## WHEEL AND TIRE ASSEMBLY

### Balancing Wheels REMOVAL

EES000YM

1. Remove inner and outer balance weights from the wheel.

**CAUTION:**

**Be careful not to scratch the wheel during removal.**

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

**CAUTION:**

**After removing double-faced adhesive tape, wipe clean traces of releasing agent from the wheel.**

### WHEEL BALANCE 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:

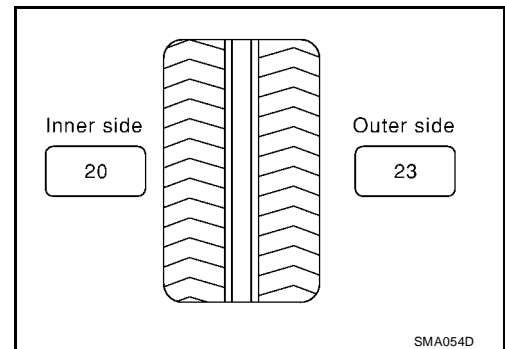
$23 \text{ g (0.81 oz)} \times 5/3 = 38.33 \text{ g (1.35 oz)} = 40 \text{ g (1.41 oz)}$  balance weight (closer to calculated balance weight value)

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

Example:

$37.4 \text{ g} = 35 \text{ g (1.23 oz)}$

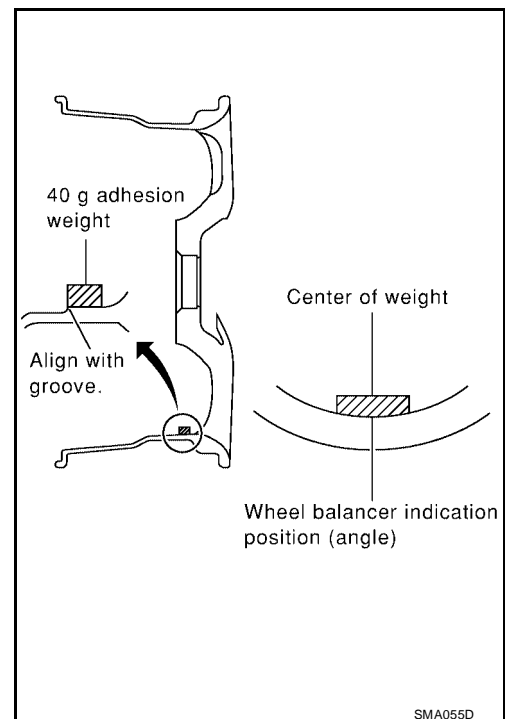
$37.5 \text{ g} = 40 \text{ g (1.41 oz)}$



- 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.**



# WHEEL AND TIRE ASSEMBLY

- c. 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:**

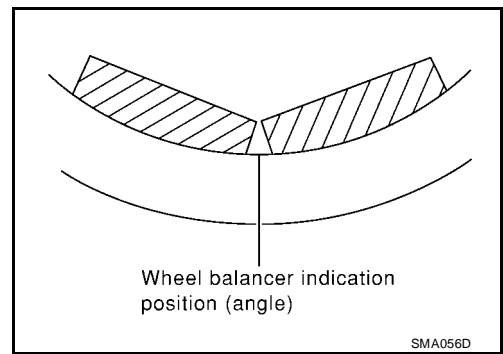
**Do not install more than two balance weights.**

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) |
|                             | Static                  | 10 g (0.35 oz)           |



## Rotation

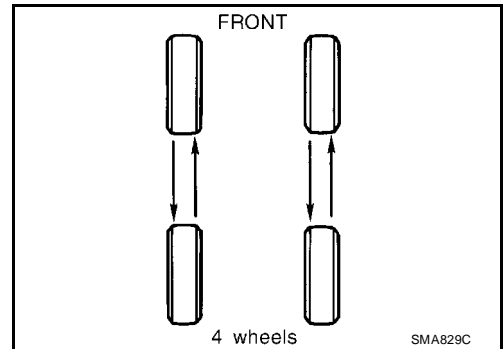
EES000YN

- Follow the maintenance schedule for tire rotation service intervals. Refer to [MA-28, "Tire Rotation"](#).
- Do not include the spare tire when rotating the tires.

**CAUTION:**

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

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



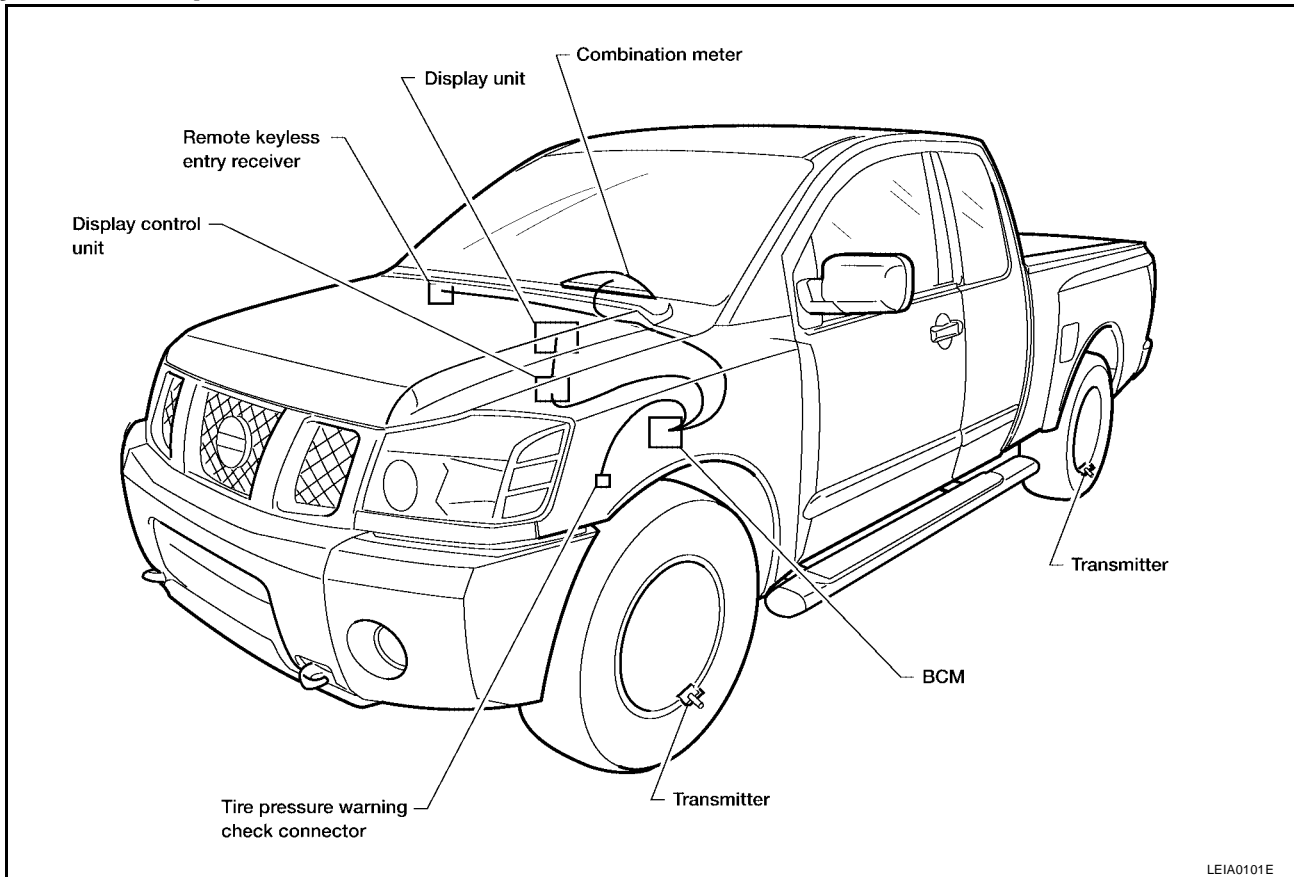
# LOW TIRE PRESSURE WARNING SYSTEM

## LOW TIRE PRESSURE WARNING SYSTEM

PFP:40300

### System Components

EES000YO



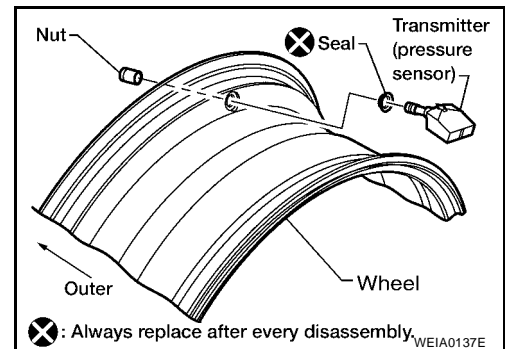
LEIA0101E

### System Description

#### TRANSMITTER

EES000YP

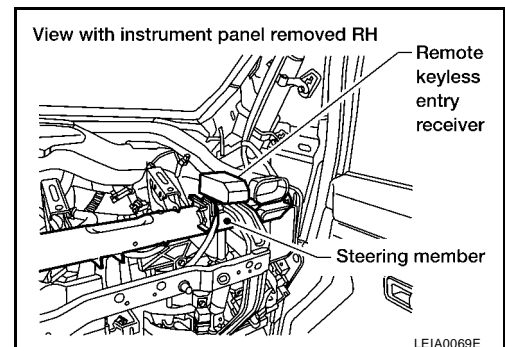
A sensor-transmitter integrated with a valve is installed on a wheel, and transmits a detected air pressure signal in the form of a radio wave.



WEIA0137E

#### REMOTE KEYLESS ENTRY RECEIVER

Receives the air pressure signal transmitted by the transmitter in each wheel.



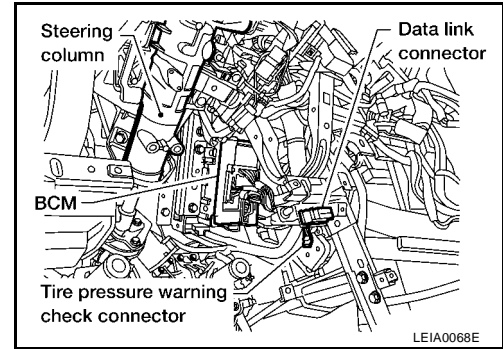
LEIA0069E

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# LOW TIRE PRESSURE WARNING SYSTEM

## BCM (BODY CONTROL MODULE)

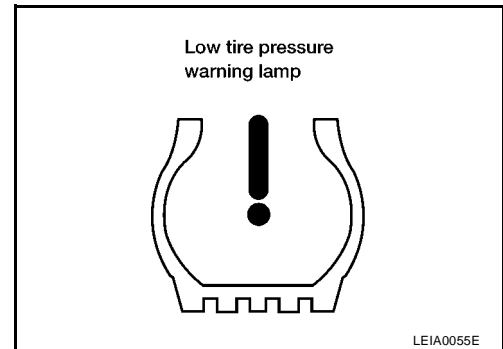
Reads the air pressure signal received by the remote keyless entry receiver, and controls the warning lamp and the buzzer operations as shown below. It also has a judgement function to detect a system malfunction.



## WARNING LAMP AND BUZZER

Indicates low tire pressure or system malfunction.

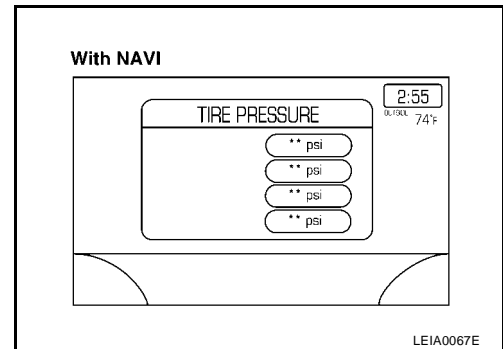
| Condition  | Warning lamp | Buzzer             |
|--|--------------|--------------------|
| Less than 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi)<br>[Flat tire] | ON           | Sounds for 10 sec. |
| System malfunction   | ON           | OFF                |



## DISPLAY UNIT (WITH NAVI)

Displays the air pressure of each tire.

- After the ignition switch is turned on, the pressure values are not be displayed until the data of each wheel is received.





# CAN COMMUNICATION

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## CAN COMMUNICATION

PFP:23710

### System Description

EES000YQ

Refer to [LAN-8, "CAN COMMUNICATION"](#) .

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# TROUBLE DIAGNOSES

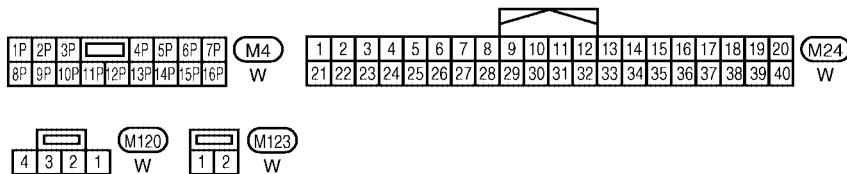
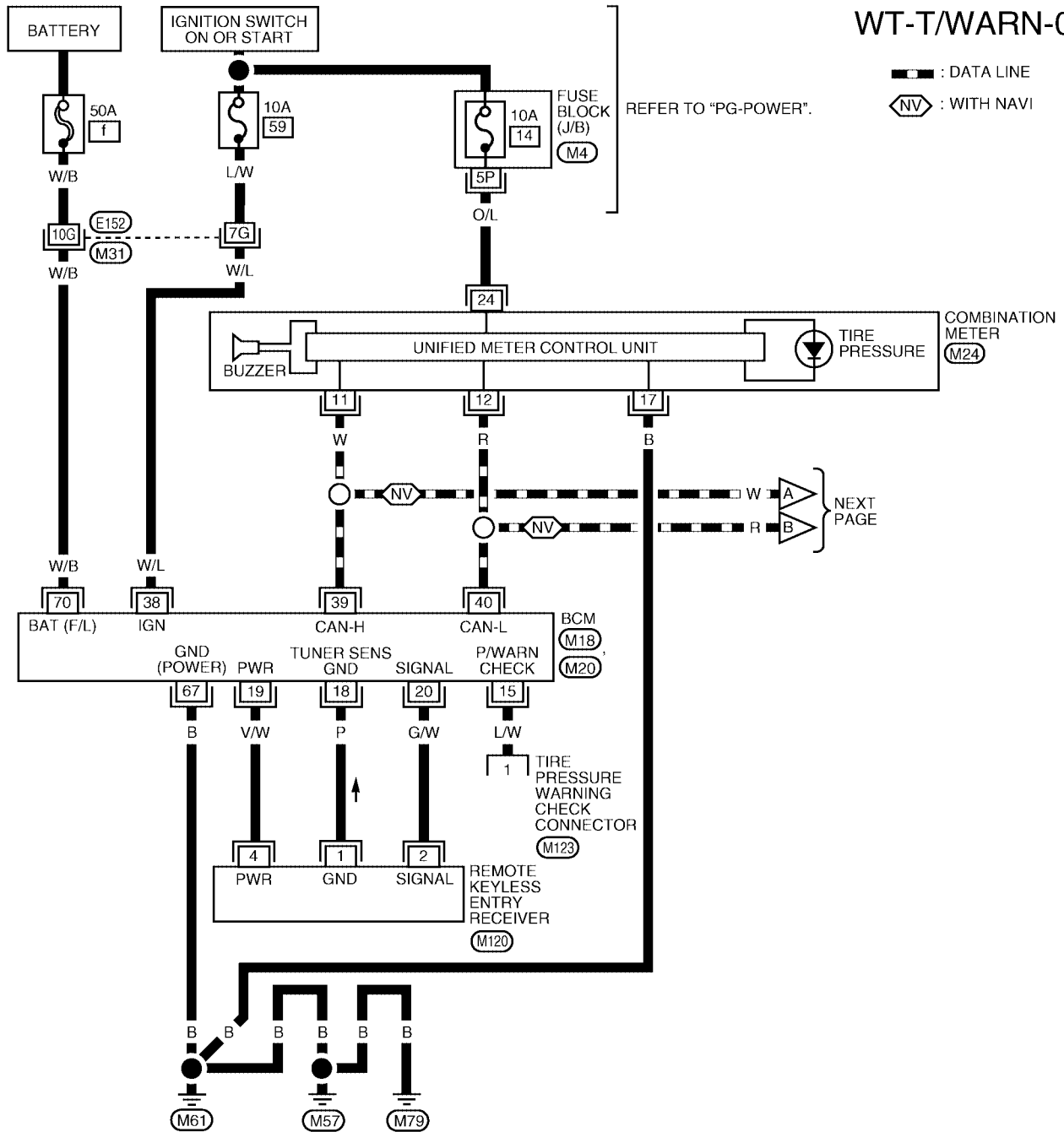
PF0:00004

## TROUBLE DIAGNOSES

### Wiring Diagram

EES000YR

### WT-T/WARN-01

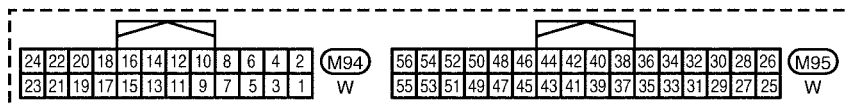
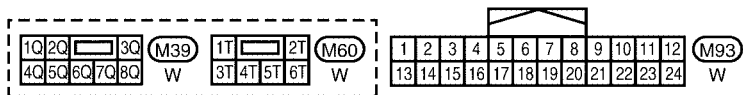
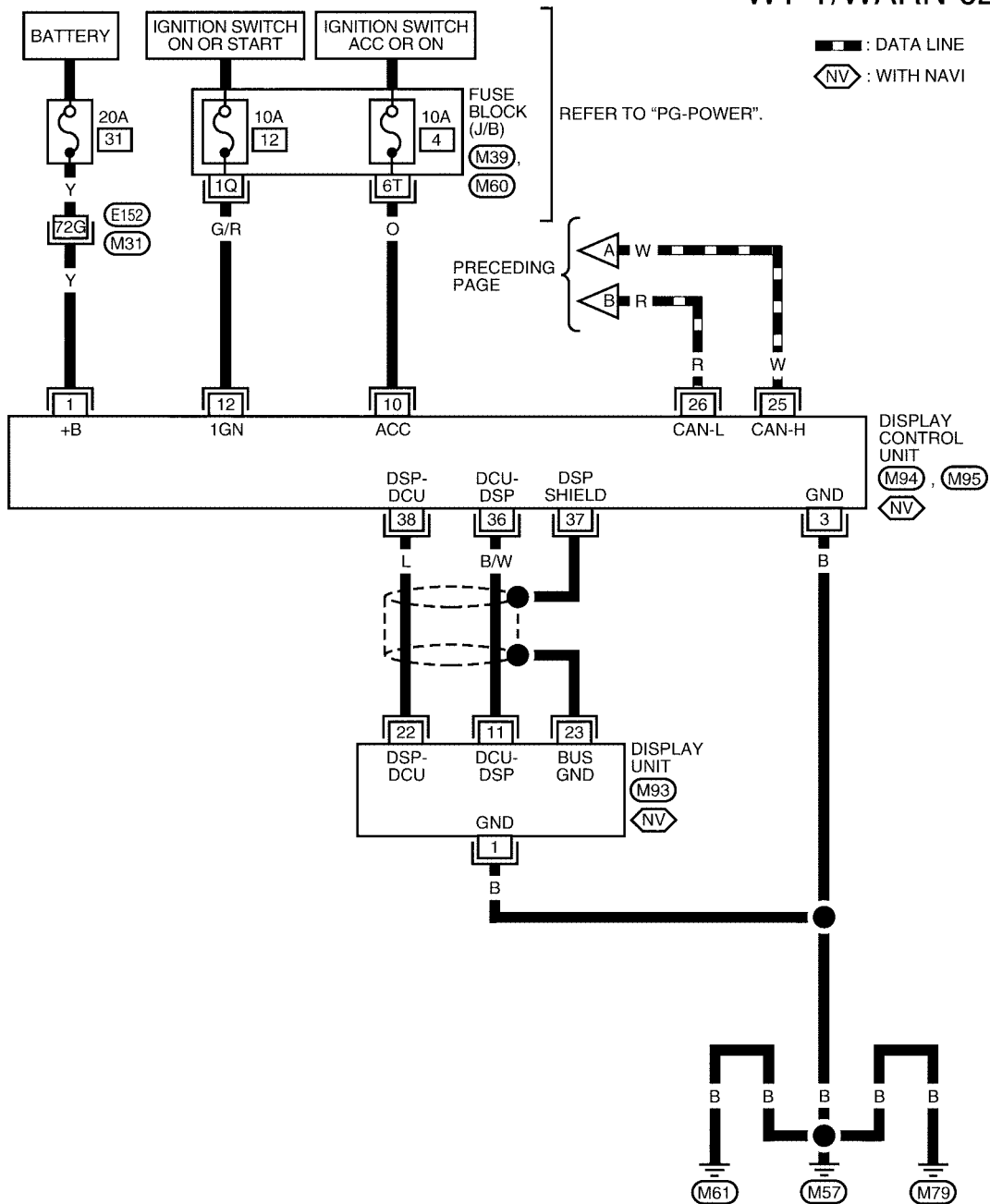


REFER TO THE FOLLOWING.  
 (M31) - SUPER MULTIPLE  
 AJUNCTION (SMJ)  
 (M18), (M20) - ELECTRICAL  
 UNITS

WEWA0037E

# TROUBLE DIAGNOSES

## WT-T/WARN-02



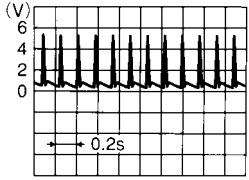
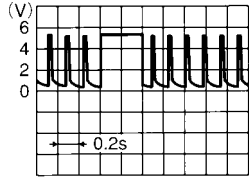
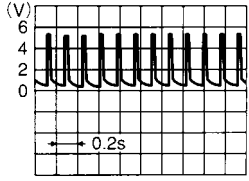
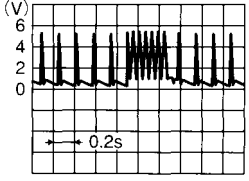
REFER TO THE FOLLOWING  
 (M31) - SUPER MULTIPLE  
 JUNCTION (SMJ)

WEWA0008E

# TROUBLE DIAGNOSES

## Control Unit Input/Output Signal Standard

EES000YS

| Terminal |        | Item   | Condition                            | Voltage (V)<br>(Approx.)   |  |
|----------|--------|--|--------------------------------------|--|--|
| +        | -      |  |                                      |  |  |
| 15 (L/W) | Ground | Tire pressure warning check connector        | —                                    | 5V   |  |
| 18 (P)   |        | Remote keyless entry receiver (Ground)       | —                                    | 0V   |  |
| 19 (V/W) |        | Remote keyless entry receiver (Power supply) | Stand-by                             |  <p style="text-align: right; font-size: small;">OCC3879D</p>   |  |
|          |        |  | Press any of the electronic switches |  |  <p style="text-align: right; font-size: small;">OCC3882D</p> |
| 20 (G/W) |        | Remote keyless entry receiver (Signal)       | Stand-by                             |  <p style="text-align: right; font-size: small;">OCC3881D</p>  |  |
|          |        |  | Press any of the electronic switches |  <p style="text-align: right; font-size: small;">OCC3880D</p> |  |
| 38 (W/L) |        |  | Ignition switch                      | Ignition switch ON or START  | Battery voltage  |
| 39 (W)   |        |  | Data line (CAN H)                    | —  | —  |
| 40 (R)   |        |  | Data line (CAN L)                    | —  | —  |
| 67 (B)   |        |  | GND                                  | —  | 0V   |
| 70 (W/B) |        | Battery power supply                         | —                                    | Battery voltage  |  |

( ) : Wire color

# TROUBLE DIAGNOSES

EES000YT

## ID Registration Procedure

### ID REGISTRATION WITH TRANSMITTER ACTIVATION TOOL

This procedure must be done after replacement of a low tire pressure warning transmitter or BCM.

**CAUTION:**

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunction might be detected during self-diagnosis depending on control unit which carries out CAN communication.

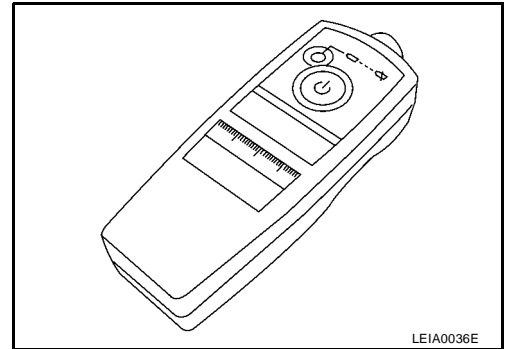
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.
2. Select "START (NISSAN BASED VHCL)".
3. Touch "BCM" on "SELECT SYSTEM" screen.

**NOTE:**

If "BCM" is not indicated, go to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .

4. Select "AIR PRESSURE MONITOR" on "SELECT WORK ITEM" screen.
5. Select "WORK SUPPORT" on "SELECT DIAG MODE" screen, and select "ID REGIST".
6. With the transmitter activation tool (J-45295) pushed against the front left transmitter position of the tire air valve, press the button for 5 seconds.

**Tool number** — (J-45295)



7. Register the IDs in order from FR LH, FR RH, RR RH and RR LH. When ID registration of each wheel has been completed, a buzzer sounds and the warning lamp flashes.

| Activation tire position | Buzzer  | Hazard warning lamp | CONSULT-II           |
|--------------------------|---------|---------------------|----------------------|
| 1 Front LH               | Once    | 2 times flashing    | "YET"<br>↓<br>"DONE" |
| 2 Front RH               | 2 times |                     |                      |
| 3 Rear RH                | 3 times |                     |                      |
| 4 Rear LH                | 4 times |                     |                      |

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

**NOTE:**

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

# TROUBLE DIAGNOSES

## ID REGISTRATION WITHOUT TRANSMITTER ACTIVATION TOOL

**This procedure must be done after replacement of a low tire pressure warning transmitter or BCM.**

1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.
2. Select "START (NISSAN BASED VHCL)".
3. Touch "BCM" on "SELECT SYSTEM" screen.

**NOTE:**

If "BCM" is not indicated, go to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .

4. Select "AIR PRESSURE MONITOR" on "SELECT WORK ITEM" screen.
5. Select "WORK SUPPORT" on "SELECT DIAG MODE" screen, and select "ID REGIST".
6. Adjust the tire pressure to the values shown in the table below for ID registration, and drive the vehicle at 15 km/h (9.4 MPH) or more for a few minutes.

| Tire position | Tire pressure kPa (kg/cm <sup>2</sup> , psi) |
|---------------|--|
| Front – Left  | 250 (2.5, 36)                                |
| Front – Right | 230 (2.3, 33)                                |
| Rear – Right  | 210 (2.1, 30)                                |
| Rear – Left   | 190 (1.9, 27)                                |

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

| Activation tire position | CONSULT-II           |
|--------------------------|----------------------|
| Front LH                 | "YET"<br>↓<br>"DONE" |
| Front RH                 |                      |
| Rear RH                  |                      |
| Rear LH                  |                      |

8. Inflate all tires to proper pressure. Refer to [WT-32, "Tire"](#) .

# TROUBLE DIAGNOSES

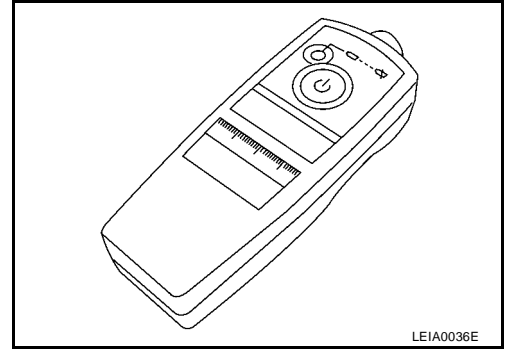
EES000YU

## Transmitter Wake Up Operation WITH TRANSMITTER ACTIVATION TOOL

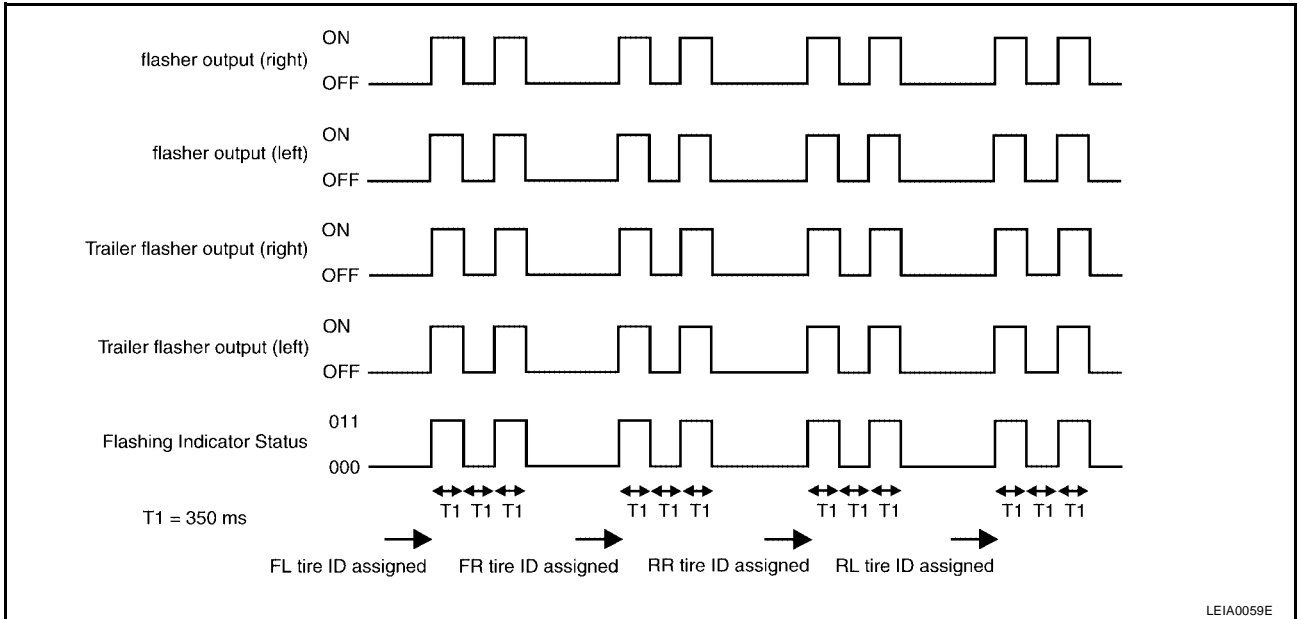
1. With the transmitter activation tool (J-45295) pushed against the front left transmitter, press the button for 5 seconds.

**Tool number** — (J-45295)

- With ignition switch ON, as the warning lamp flashes per the follow diagram, the respective transmitter then must be woken up.



2. When the BCM finishes assigning each tire ID, the BCM flashes the hazard warning lamps and trailer flasher lamps (if equipped) and sends flashing indicator status by CAN according to the following time chart. Please see trailer flasher specification details of trailer flashing lamps since the BCM controls trailer flasher lamps as brake lamps.



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

# TROUBLE DIAGNOSES

EES000YV

## Self-Diagnosis

### DESCRIPTION

During driving, the low tire pressure warning system receives the signal transmitted from the transmitter installed in each wheel, and gives alarms when the tire pressure becomes low. The control unit (BCM) for this system has pressure judgement and trouble diagnosis functions.

### FUNCTION

When the low tire pressure warning system detects low inflation pressure or another unusual symptom, the warning lamps in the combination meter comes on. To start the self-diagnostic results mode, ground the tire pressure warning check terminal. The malfunction location is indicated by the warning lamp flashing and the buzzer sounds.

### CONSULT-II MAIN FUNCTION

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

| Test mode                      | Function   |
|--------------------------------|--|
| WORK SUPPORT                   | This mode enables a technician to adjust some devices faster and more accurately by following the indications on CONSULT-II. |
| SELF-DIAGNOSTIC RESULTS        | Self-diagnostic results can be read and erased quickly.  |
| DATA MONITOR                   | Input/Output data in the control unit can be read.   |
| CAN DIAGNOSTIC SUPPORT MONITOR | The results of transmit/receive diagnosis of CAN communication can be read.  |

### CONSULT-II Application to Low Tire Pressure Warning System

| ITEM                          | SELF-DIAGNOSTIC RESULTS | DATA MONITOR |
|-------------------------------|-------------------------|--------------|
| Front - Left transmitter      | ×                       | ×            |
| Front - Right transmitter     | ×                       | ×            |
| Rear - Left transmitter       | ×                       | ×            |
| Rear - Right transmitter      | ×                       | ×            |
| Warning lamp                  | —                       | ×            |
| Vehicle speed                 | ×                       | ×            |
| Buzzer (in combination meter) | —                       | ×            |
| CAN Communication             | ×                       | —            |

× : Applicable

— : Not applicable

### Self-Diagnostic Results Mode

| Diagnostic item  | Diagnostic item is detected when ...   |
|--|--|
| FLAT - TIRE - FL<br>FLAT - TIRE - FR<br>FLAT - TIRE - RR<br>FLAT - TIRE - RL                 | Front-left tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less<br>Front-right tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less<br>Rear-right tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less<br>Rear-left tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less |
| [NO-DATA] - FL<br>[NO-DATA] - FR<br>[NO-DATA] - RR<br>[NO-DATA] - RL                         | Data from front-left transmitter cannot be received.<br>Data from front-right transmitter cannot be received.<br>Data from rear-right transmitter cannot be received.<br>Data from rear-left transmitter cannot be received.   |
| [CHECKSUM- ERR] - FL<br>[CHECKSUM- ERR] - FR<br>[CHECKSUM- ERR] - RR<br>[CHECKSUM- ERR] - RL | Checksum data from front-left transmitter is malfunctioning.<br>Checksum data from front-right transmitter is malfunctioning.<br>Checksum data from rear-right transmitter is malfunctioning.<br>Checksum data from rear-left transmitter is malfunctioning.   |



# TROUBLE DIAGNOSES

| Diagnostic item  | Diagnostic item is detected when ...   |
|--|--|
| [PRESSDATA- ERR] - FL<br>[PRESSDATA- ERR] - FR<br>[PRESSDATA- ERR] - RR<br>[PRESSDATA- ERR] - RL             | Air pressure data from front-left transmitter is malfunctioning.<br>Air pressure data from front-right transmitter is malfunctioning.<br>Air pressure data from rear-right transmitter is malfunctioning.<br>Air pressure data from rear-left transmitter is malfunctioning.     |
| [CODE- ERR] - FL<br>[CODE- ERR] - FR<br>[CODE- ERR] - RR<br>[CODE- ERR] - RL                                 | Function code data from front-left transmitter is malfunctioning.<br>Function code data from front-right transmitter is malfunctioning.<br>Function code data from rear-right transmitter is malfunctioning.<br>Function code data from rear-left transmitter is malfunctioning. |
| [BATT - VOLT - LOW] - FL<br>[BATT - VOLT - LOW] - FR<br>[BATT - VOLT - LOW] - RR<br>[BATT - VOLT - LOW] - RL | Battery voltage of front-left transmitter drops.<br>Battery voltage of front-right transmitter drops.<br>Battery voltage of rear-right transmitter drops.<br>Battery voltage of rear-left transmitter drops.   |
| VHCL_SPEED_SIG_ERR   | Vehicle speed signal is in error.  |

**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-II.

**Data Monitor Mode**

| MONITOR  | CONDITION   | SPECIFICATION  |
|--|---|--|
| VHCL SPEED   | Drive vehicle.  | Vehicle speed (km/h or MPH)  |
| AIR PRESS FL<br>AIR PRESS FR<br>AIR PRESS RR<br>AIR PRESS RL | <ul style="list-style-type: none"> <li>● Drive vehicle for a few minutes.</li> </ul> <p style="text-align: center;">or</p> <ul style="list-style-type: none"> <li>● Ignition switch ON and activation tool is transmitting activation signals.</li> </ul> | Tire pressure (kPa or psi)   |
| ID REGST FL1<br>ID REGST FR1<br>ID REGST RR1<br>ID REGST RL1 | Ignition switch ON  | Registration ID: DONE<br>No registration ID: YET                                 |
| WARNING LAMP   |   | Low tire pressure warning lamp on: ON<br>Low tire pressure warning lamp off: OFF |
| BUZZER   |   | Buzzer in combination meter on: ON<br>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-II.

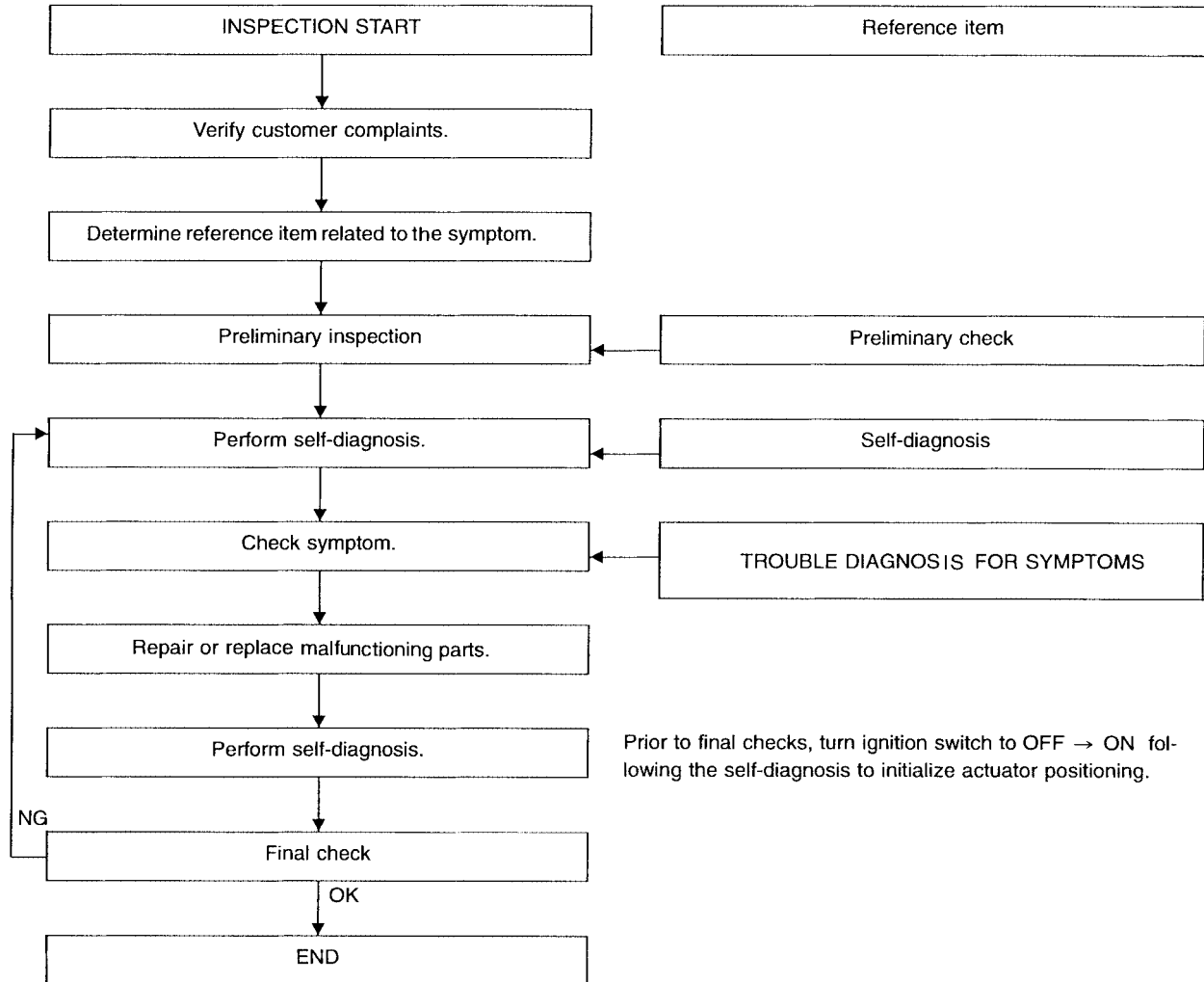
# TROUBLE DIAGNOSES

## How to Perform Trouble Diagnosis for Quick and Accurate Repair INTRODUCTION

EES000YW

- Before troubleshooting, verify customer complaints.
- If a vehicle malfunction is difficult to reproduce, harnesses, harness connectors or terminals may be malfunctioning. Hold and shake these parts to make sure they are securely connected.
- When using a circuit tester to measure voltage or resistance of each circuit, be careful not to damage or deform connector terminals.

## WORK FLOW



SEIA0100E

Preliminary check : [WT-19](#)    Self-diagnosis : [WT-16](#)    Trouble diagnosis for symptoms : [WT-25](#)

# TROUBLE DIAGNOSES

## Preliminary Check

EES000YX

### BASIC INSPECTION

#### 1. CHECK BCM CONFIGURATION

Confirm BCM configuration for "DISPLAY STYLE" is set to:

- "MODE1" for vehicles without Navigation display screen.
- "MODE2" for vehicles with Navigation display screen.

Refer to [BCS-13, "READ CONFIGURATION PROCEDURE"](#) .

OK or NG

OK >> GO TO 2.

NG >> Change BCM configuration for "DISPLAY STYLE" to "MODE1" or "MODE2". Refer to [BCS-16, "WRITE CONFIGURATION PROCEDURE"](#) .

#### 2. CHECK ALL TIRE PRESSURES

Check all tire pressures. Refer to [WT-32, "Tire"](#) .

OK or NG

OK >> GO TO 2.

NG >> Adjust tire pressure to specified value.

#### 3. CHECK LOW TIRE PRESSURE WARNING LAMP ACTIVATION

1. Check low tire pressure warning lamp activation.
2. Does low tire pressure warning lamp activate for 1 second when ignition switch is turned "ON"?

Does warning lamp activate?

YES >> GO TO 3.

NO >> Check fuse and combination meter.

#### 4. CHECK CONNECTOR

1. Disconnect BCM harness connector.
2. Check terminals for damage or loose connection.
3. Reconnect harness connector.

OK or NG

OK >> GO TO 4.

NG >> Repair or replace damaged parts.

#### 5. CHECK TRANSMITTER ACTIVATION TOOL

Check transmitter activation tool battery.

OK or NG

OK >> Carry out self-diagnosis.

NG >> Replace transmitter activation tool battery.

# TROUBLE DIAGNOSES

## Malfunction Code/Symptom Chart

EES000YY

| Code/Symptom   | Malfunction part   | Reference page  |
|--|--|---|
| 15<br>16<br>17<br>18   | Front-left tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less<br>Front-right tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less<br>Rear-right tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less<br>Rear-left tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less | —   |
| 21<br>22<br>23<br>24   | Transmitter no data (front - left)<br>Transmitter no data (front - right)<br>Transmitter no data (rear - right)<br>Transmitter no data (rear - left)   | <a href="#">WT-22.</a><br><a href="#">"Inspection 1: Transmitter or Control Unit (BCM)"</a>                               |
| 31<br>32<br>33<br>34   | Transmitter checksum error (front - left)<br>Transmitter checksum error (front - right)<br>Transmitter checksum error (rear - right)<br>Transmitter checksum error (rear - left)   | <a href="#">WT-22.</a><br><a href="#">"Inspection 2: Transmitter - 1"</a>   |
| 35<br>36<br>37<br>38   | Transmitter pressure data error (front - left)<br>Transmitter pressure data error (front - right)<br>Transmitter pressure data error (rear - right)<br>Transmitter pressure data error (rear - left)   | <a href="#">WT-23.</a><br><a href="#">"Inspection 3: Transmitter - 2"</a>   |
| 41<br>42<br>43<br>44   | Transmitter function code error (front - left)<br>Transmitter function code error (front - right)<br>Transmitter function code error (rear - right)<br>Transmitter function code error (rear - left)   | <a href="#">WT-22.</a><br><a href="#">"Inspection 2: Transmitter - 1"</a>   |
| 45<br>46<br>47<br>48   | Transmitter battery voltage low (front - left)<br>Transmitter battery voltage low (front - right)<br>Transmitter battery voltage low (rear - right)<br>Transmitter battery voltage low (rear - left)   | <a href="#">WT-22.</a><br><a href="#">"Inspection 2: Transmitter - 1"</a>   |
| 52   | Vehicle speed signal   | <a href="#">WT-24.</a><br><a href="#">"Inspection 4: Vehicle Speed Signal"</a>  |
| Low tire pressure warning lamp does not come on when ignition switch is turned on. | Fuse or combination meter<br>BCM connector or circuit<br>BCM   | <a href="#">WT-25.</a><br><a href="#">"Inspection 1: Warning Lamp Does Not Come On When Ignition Switch Is Turned On"</a> |
| Low tire pressure warning lamp stays on when ignition switch is turned on.         | Combination meter<br>BCM connector or circuit<br>BCM   | <a href="#">WT-25.</a><br><a href="#">"Inspection 2: Warning Lamp Stays On When Ignition Switch Is Turned On"</a>         |
| Low tire pressure warning lamp flashes when ignition switch is turned on.          | BCM harness connector or circuit<br>BCM<br>Transmitter's mode off<br>ID registration not yet   | <a href="#">WT-27.</a><br><a href="#">"Inspection 3: Warning Lamp Flashes When Ignition Switch Is Turned On"WT-27</a>     |

# TROUBLE DIAGNOSES

| Code/Symptom   | Malfunction part  | Reference page   | A  |
|--|---|--|----|
| Hazard warning lamp flashes when ignition switch is turned on. | BCM harness connector or circuit<br>BCM   | <a href="#">WT-28</a> ,<br><a href="#">"Inspection 4: Hazard Warning Lamp Flashes When Ignition Switch Is Turned On"</a> | B  |
| "TIRE PRESSURE" information in display does not exist.         | Fuse<br>Display unit<br>BCM   | <a href="#">WT-29</a> ,<br><a href="#">"Inspection 5: "TIRE PRESSURE" Information In Display Unit Does Not Exist"</a>    | D  |
| ID registration cannot be completed.                           | Transmitter<br>Remote keyless entry receiver harness connector or circuit<br>Remote keyless entry receiver<br>BCM harness connector or circuit<br>BCM | <a href="#">WT-29</a> ,<br><a href="#">"Inspection 6: ID Registration Cannot Be Completed"</a>                           | WT |
|  |   |  | F  |
|  |   |  | G  |
|  |   |  | H  |
|  |   |  | I  |
|  |   |  | J  |
|  |   |  | K  |
|  |   |  | L  |
|  |   |  | M  |

# TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

---

## TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

PF0:0000

### Inspection 1: Transmitter or Control Unit (BCM) MALFUNCTION CODE NO. 21, 22, 23 OR 24

EES000YZ

#### 1. CHECK CONTROL UNIT

---

Drive for several minutes. Check all tire pressures with CONSULT-II "DATA MONITOR ITEM".

Are all tire pressures displayed as 0 kPa?

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

#### 2. CHECK REMOTE KEYLESS ENTRY RECEIVER CONNECTOR

---

Check remote keyless entry receiver connector for damage or loose connections.

OK or NG

- OK >> Replace BCM, then GO TO 3. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
- NG >> Repair or replace remote keyless entry receiver connector.

#### 3. ID REGISTRATION

---

Carry out ID registration of all transmitters.

Is there a tire that cannot register ID?

- YES >> Replace transmitter of the tire, then GO TO 5. Refer to [WT-30, "Transmitter \(Pressure Sensor\)"](#) .
- NO >> GO TO 4.

#### 4. VEHICLE DRIVING

---

1. Drive at a speed of 40 km/h (25 MPH) or more for several minutes without stopping.
2. Check all tire pressures with CONSULT-II "DATA MONITOR ITEM" 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?

- 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. Then check all tire pressures with CONSULT-II "DATA MONITOR ITEM" within 5 minutes.

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

- YES >> Inspection End.
- NO >> GO TO the inspection applicable to DTC.

### Inspection 2: Transmitter - 1 MALFUNCTION CODE NO. 31, 32, 33, 34, 41, 42, 43, 44, 45, 46, 47 OR 48

EES000Z0

#### 1. ID REGISTRATION (CORRECTION OF TRANSMITTER LOCATION)

---

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.

>> GO TO 2.

# TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

---

## 2. REPLACE TRANSMITTER

---

1. Check low tire pressure warning lamp again for flashing, replace malfunctioning transmitter.
2. Carry out ID registration of all transmitters.

Can ID registration of all transmitters be completed?

YES >> GO TO 3.

NO >> GO TO Inspection 1. Refer to [WT-22, "Inspection 1: Transmitter or Control Unit \(BCM\)"](#) .

## 3. VEHICLE DRIVING

---

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-II "DATA MONITOR ITEM" 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. Refer to [WT-30, "Transmitter \(Pressure Sensor\)"](#) .

## Inspection 3: Transmitter - 2 MALFUNCTION CODE NO. 35, 36, 37 OR 38

EES000Z1

### 1. CHECK ALL TIRE PRESSURES

---

Check all tire pressures. Refer to [WT-32, "Tire"](#)

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

YES >> Adjust tire pressure to specified value.

NO >> GO TO 2.

### 2. VEHICLE DRIVING

---

1. Carry out ID registration of all transmitters.
2. Drive at a speed of 40 km/h (25 MPH) or more for several minutes without stopping.  
Check all tire pressures with CONSULT-II "DATA MONITOR ITEM" within 15 minutes after vehicle speed becomes 17 km/h (11 MPH).

>> Replace transmitter with new one if "DATA MONITOR ITEM" displays 64 psi or more. Refer to [WT-30, "Transmitter \(Pressure Sensor\)"](#) . Then GO TO 3.

### 3. 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-II "DATA MONITOR ITEM" within 5 minutes.

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

YES >> Inspection End.

NO >> GO TO the inspection applicable to DTC.

# TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

EES000Z2

## Inspection 4: Vehicle Speed Signal MALFUNCTION CODE NO. 52

### 1. SELF-DIAGNOSTIC RESULT CHECK

1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.
2. Select "START (NISSAN BASED VHCL)".
3. Select "BCM" on "SELECT SYSTEM" screen.

**NOTE:**

If the BCM is not indicated, refer to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#)

4. Select "BCM" on "SELECT WORK ITEM" screen, and select "SELF-DIAG RESULTS".
5. Check display contents in self-diagnostic results.

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

- YES >> Malfunction in CAN communication system. GO TO [LAN-8, "CAN COMMUNICATION"](#)  
NO >> GO TO 2.

### 2. CHECK BCM

Perform BCM diagnosis. Refer to [BCS-11, "CONSULT-II INSPECTION PROCEDURE"](#).

Inspection results OK?

- OK >> Perform Vehicle Speed Sensor Inspection. Refer to [AT-116, "Diagnostic Procedure"](#).  
NG >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#).



# TROUBLE DIAGNOSIS FOR SYMPTOMS

## TROUBLE DIAGNOSIS FOR SYMPTOMS

PFP:00007

### Inspection 1: Warning Lamp Does Not Come On When Ignition Switch Is Turned On

EES000Z3

#### DIAGNOSTIC PROCEDURE

#### 1. SELF-DIAGNOSTIC RESULT CHECK

1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.
2. Select "START (NISSAN BASED VHCL)".
3. Select "BCM" on "SELECT SYSTEM" screen.

**NOTE:**

If the BCM is not indicated, refer to [LAN-8, "CAN COMMUNICATION"](#).

4. Select "BCM" on "SELECT WORK ITEM" screen, and select "SELF-DIAG RESULTS".
5. Check display contents in self-diagnostic results.

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

- YES >> Malfunction in CAN communication system. GO TO [LAN-8, "CAN COMMUNICATION"](#)  
NO >> GO TO 2.

#### 2. CHECK COMBINATION METER

Check combination meter operation.

Inspection results OK?

- OK >> GO TO 3.  
NG >> Check combination meter. Refer to [DI-8, "Combination Meter"](#).

#### 3. CHECK LOW TIRE PRESSURE WARNING LAMP

Disconnect BCM harness connectors.

Does the low tire pressure warning lamp activate?

- YES >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#).  
NO >> Check combination meter and repair or replace. Refer to [DI-25, "Removal and Installation of Combination Meter"](#).

### Inspection 2: Warning Lamp Stays On When Ignition Switch Is Turned On

EES000Z4

#### DIAGNOSTIC PROCEDURE

#### 1. CHECK CONNECTOR

1. Disconnect BCM harness connectors.
2. Check terminals for damage or loose connections.

Inspection results OK?

- OK >> GO TO 2.  
NG >> Repair or replace damaged parts.

# TROUBLE DIAGNOSIS FOR SYMPTOMS

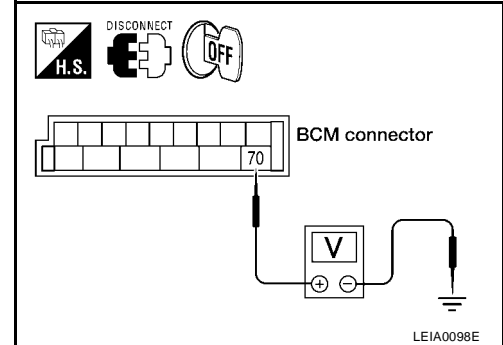
## 2. CHECK POWER SUPPLY CIRCUIT (BAT)

Check voltage between BCM harness connector M20 terminal 70 (W/B) and ground.

| Terminals |                          | Voltage<br>(Approx.) |      |
|-----------|--------------------------|----------------------|------|
| (+)       | (-)                      |                      |      |
| Connector | Terminal<br>(Wire color) | Ground               | 12 V |
| M20       | 70 (W/B)                 |                      |      |

OK or NG

- OK >> GO TO 3.
- NG >> Check BCM power supply circuit for open or short.



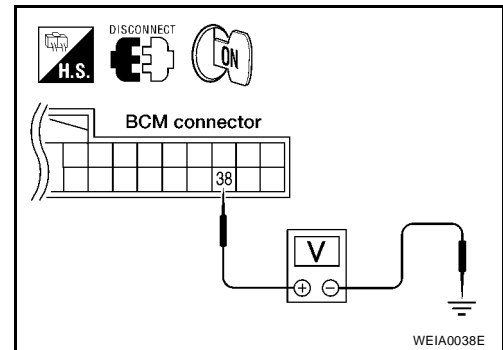
## 3. CHECK POWER SUPPLY CIRCUIT (IGN)

1. Turn ignition switch ON.
2. Check voltage between BCM harness connector M18 terminal 38 (W/L) and ground.

| Terminals |                          | Voltage<br>(Approx.) |      |
|-----------|--------------------------|----------------------|------|
| (+)       | (-)                      |                      |      |
| Connector | Terminal<br>(Wire color) | Ground               | 12 V |
| M18       | 38 (W/L)                 |                      |      |

OK or NG

- OK >> GO TO 4.
- NG >> Check BCM power supply circuit for open or short.



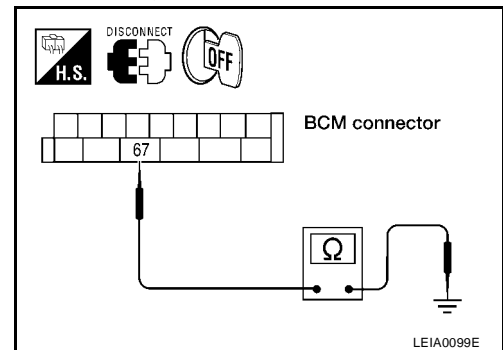
## 4. CHECK GROUND CIRCUIT

- Check continuity between BCM harness connector M20 terminal 67 (B) and ground.

| Terminals |                          | Continuity |     |
|-----------|--------------------------|------------|-----|
| (+)       | (-)                      |            |     |
| Connector | Terminal<br>(Wire color) | Ground     | Yes |
| M20       | 67 (B)                   |            |     |

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#).
- NG >> Repair or replace BCM ground circuit.



# TROUBLE DIAGNOSIS FOR SYMPTOMS

## Inspection 3: Warning Lamp Flashes When Ignition Switch Is Turned On

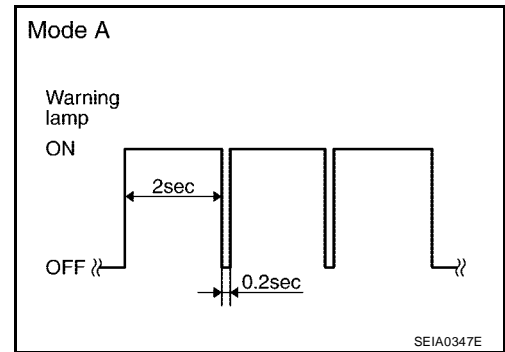
EES000Z5

### NOTE:

If 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 [WT-15, "Transmitter Wake Up Operation"](#).



### DIAGNOSTIC PROCEDURE

#### 1. CHECK CONNECTOR

1. Disconnect BCM harness connectors M18, M19 and M20.
2. Check terminals for damage or loose connections.

#### Inspection results OK?

- OK >> GO TO 2.  
NG >> Repair or replace damaged parts.

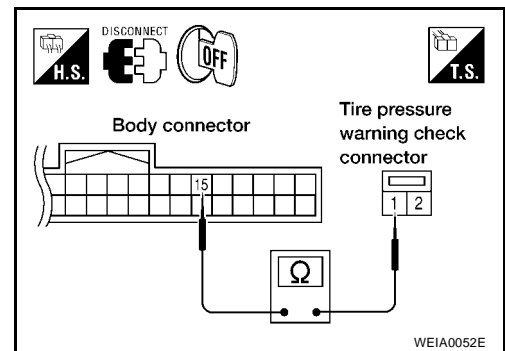
#### 2. CHECK TIRE PRESSURE WARNING CHECK CONNECTOR CIRCUIT

Check continuity between BCM harness connector M18 terminal 15 (L/W) and check connector M123 terminal 1 (L/W).

**Continuity should exist**

#### OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#).
- NG >> Repair or replace harness connector.



# TROUBLE DIAGNOSIS FOR SYMPTOMS

## Inspection 4: Hazard Warning Lamp Flashes When Ignition Switch Is Turned On

EES000Z6

### DIAGNOSTIC PROCEDURE

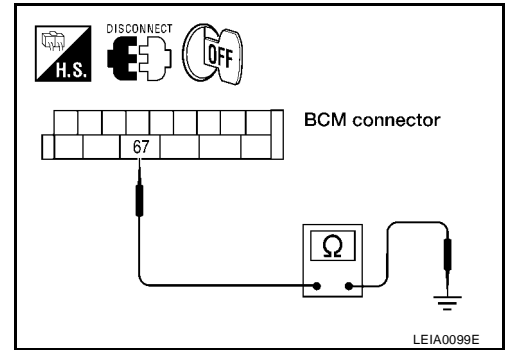
#### 1. CHECK GROUND CIRCUIT

1. Disconnect BCM harness connector M20.
2. Check continuity between BCM harness connector M20 terminal 67 (B) and ground.

| Terminals |                       | Continuity |
|-----------|-----------------------|------------|
| (+)       | (-)                   |            |
| Connector | Terminal (Wire color) | Ground     |
| M20       | 67 (B)                | Yes        |

#### OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#).
- NG >> Repair or replace BCM ground circuit.



# TROUBLE DIAGNOSIS FOR SYMPTOMS

## Inspection 5: "TIRE PRESSURE" Information In Display Unit Does Not Exist EES000Z7

### DIAGNOSTIC PROCEDURE

#### 1. SELF-DIAGNOSTIC RESULT CHECK

1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.
2. Select "START (NISSAN BASED VHCL)".
3. Select "BCM" on "SELECT SYSTEM" screen.

**NOTE:**

If the BCM is not indicated, refer to [LAN-8, "CAN COMMUNICATION"](#) .

4. Select "BCM" on "SELECT WORK ITEM" screen, and select "SELF-DIAG RESULTS".
5. Check display contents in self-diagnostic results.

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

- YES >> Malfunction in CAN communication system. GO TO [LAN-8, "CAN COMMUNICATION"](#)  
NO >> GO TO 2.

#### 2. CHECK DISPLAY UNIT

Perform display unit self-diagnosis. Refer to [AV-119, "Self-Diagnosis Mode \(DCU\)"](#) (without NAVI) or [AV-122, "Self-Diagnosis Mode \(NAVI\)"](#) (with NAVI).

Inspection results OK?

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .  
NG >> Repair or replace malfunctioning parts.

## Inspection 6: ID Registration Cannot Be Completed EES001XZ

### DIAGNOSTIC PROCEDURE

#### 1. ID REGISTRATION (ALL)

Carry out ID registration of all transmitters.

Can ID registration of all transmitters be completed?

- YES >> Inspection End.  
NO >> Go To [WT-22, "Inspection 1: Transmitter or Control Unit \(BCM\)"](#) .

# REMOVAL AND INSTALLATION

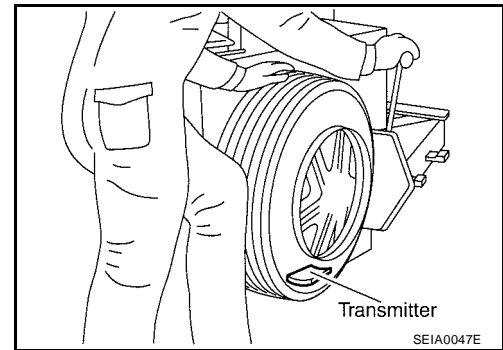
PFP:00000

EES00029

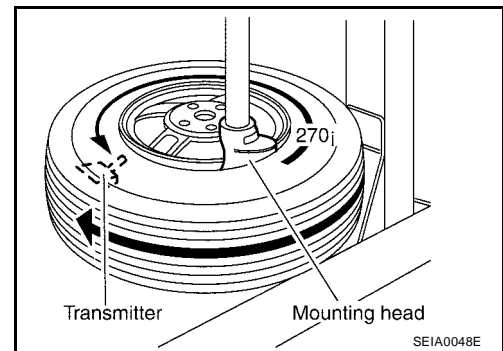
## REMOVAL AND INSTALLATION

### Transmitter (Pressure Sensor) REMOVAL

1. Deflate tire. Unscrew transmitter retaining nut and allow transmitter to fall into tire.
2. 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.

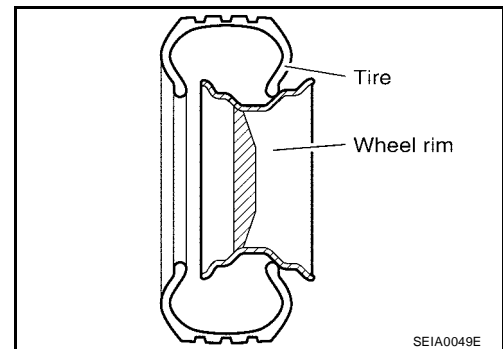


3. Turn tire so that valve hole is at bottom, and gently bounce the tire to ensure transmitter is near valve hole. Carefully lift tire onto turntable and position valve hole (and transmitter) 270 degrees from mounting/dismounting head.
4. Lubricate tire well, and remove top side of tire. Reach inside the tire and remove the transmitter.
5. 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-11, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

#### NOTE:

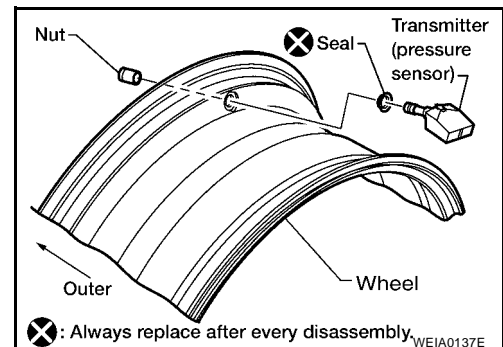
Always replace the seal after every disassembly.

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  
tightening torque : 5.5 N·m (0.56 kg·m, 49 in·lb)**



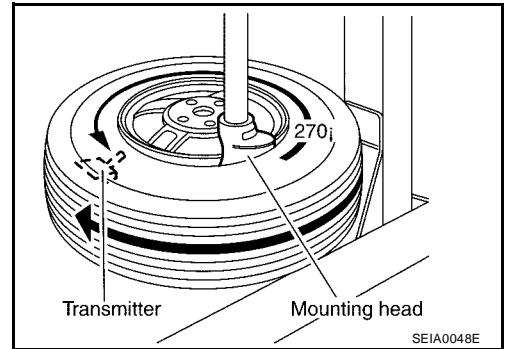
## REMOVAL AND INSTALLATION

- 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.

- Lubricate tire well, and install second side of tire as normal. Ensure that tire does not rotate relative to rim.
- Inflate tire and balance wheel and tire assembly. Refer to [WT-5, "Wheel Balance Adjustment"](#).
- Install Wheel and tire assembly in appropriate wheel position on vehicle.
- Adjust neutral position of steering angle sensor. Refer to [BRC-151, "Adjustment of Steering Angle Sensor Neutral Position"](#).



A  
B  
C  
D

WT

F

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M

# SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

PF0:00030

### Road Wheel

EES000ZA

| Wheel type                  |                         | Aluminum                           | Steel               |                     |
|-----------------------------|-------------------------|------------------------------------|---------------------|---------------------|
|                             |                         |                                    | Inside              | Outside             |
| Maximum radial runout limit | Lateral mm (in)         | 0.3 (0.012) or less                | 1.0 (0.039) or less | 0.9 (0.035) or less |
|                             | Radial mm (in)          | 0.3 (0.012) or less                | 0.8 (0.031) or less | 0.4 (0.016) or less |
| Maximum residual imbalance  | Dynamic (at rim flange) | Less than 5 g (0.18 oz) (per side) |                     |                     |
|                             | Static (at rim flange)  | Less than 10 g (0.35 oz)           |                     |                     |

### Tire

EES000ZB

Unit: kPa (kg/cm<sup>2</sup>, psi)

| Tire size            | Air pressure      |               |
|----------------------|-------------------|---------------|
|                      | Conventional tire | Spare tire    |
| Full size spare tire | —                 | 240 (2.4, 35) |
| P245/75R17           | 240 (2.4, 35)     | —             |
| P285/70R17           | 240 (2.4, 35)     | —             |
| P265/70R18           | 240 (2.4, 35)     | —             |