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# WT

## SECTION

### ROAD WHEELS & TIRES

WT

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# PRECAUTIONS

## PRECAUTIONS

PF0:00001

### Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

EES002RP

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS 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 SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

#### Precautions for work

EES002RQ

- 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.

# PREPARATION

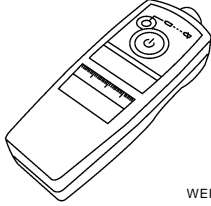
## PREPARATION

PFP:00002

### Special Service Tool

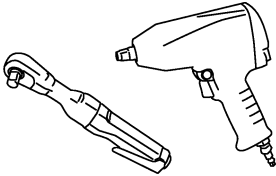
EES002RR

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 <ul style="list-style-type: none"> <li>● Transmitter wake up operation</li> <li>● ID registration procedure</li> </ul>

### Commercial Service Tools

EES002RS

Tool name	Description
Power tool	 PBIC0190E <p>Removing wheel nuts</p>

# NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

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

FPF:00003

### NVH Troubleshooting Chart

EES002RT

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

Symptom		Possible cause and SUSPECTED PARTS													Reference page		
		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	<a href="#">WT-5</a> <a href="#">WT-6</a> <a href="#">WT-31</a> <a href="#">WT-7</a> — — <a href="#">WT-31</a> <a href="#">FFD-6, "NVH Troubleshooting Chart" (FFD), RFD-8, "NVH Troubleshooting Chart" (RFD)</a> <a href="#">FAX-4, "NVH Troubleshooting Chart" (FAX), FSU-4, "NVH Troubleshooting Chart" (FSU)</a> <a href="#">RAX-4, "NVH Troubleshooting Chart" (RAX), RSU-4, "NVH Troubleshooting Chart" (RSU)</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>
		Shake	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	
		Shudder	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, shudder		x	x			x				x	x		x	x	x		
Poor quality ride or handling		x	x			x				x	x		x				

x: Applicable

# WHEEL

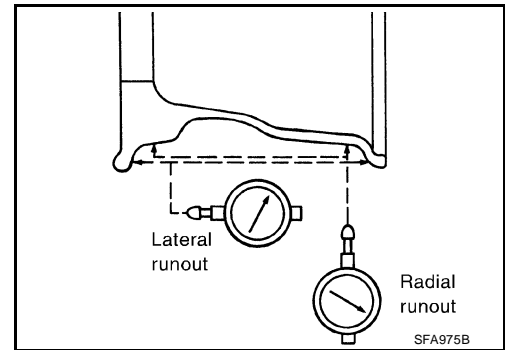
## WHEEL

PFP:40300

EES002RU

### Inspection

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-31, "Road Wheel"](#).
3. Check front wheel bearings for looseness.
4. Check front suspension for looseness.



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# WHEEL AND TIRE ASSEMBLY

## WHEEL AND TIRE ASSEMBLY

PF:40300

### Balancing Wheels REMOVAL

EES002RV

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:

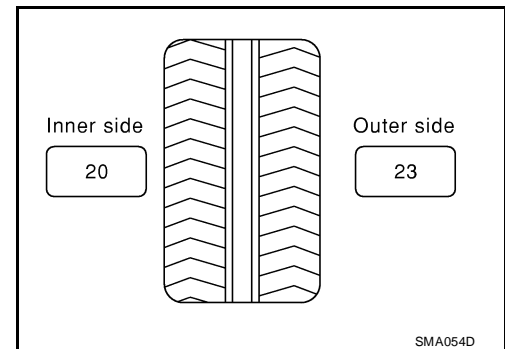
23 g (0.81 oz)  $\times 5/3$  = 38.33 g (1.35 oz) = 40 g (1.41 oz) balance weight (closer to calculated balance weight value)

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

Example:

37.4 g = 35 g (1.23 oz)

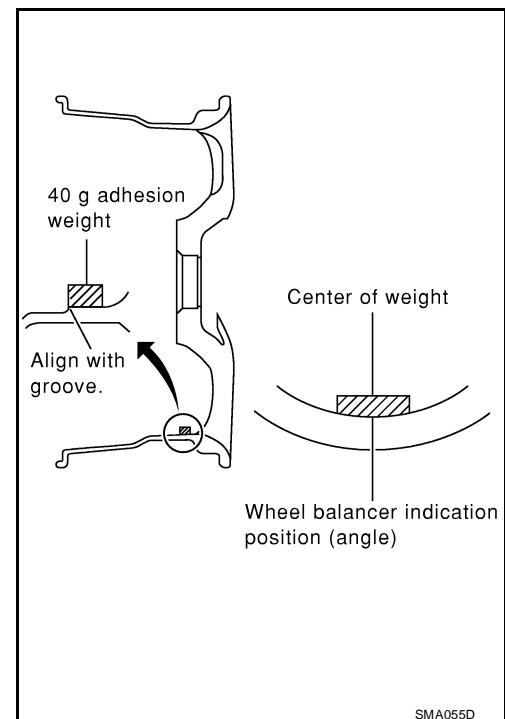
37.5 g = 40 g (1.41 oz)



- 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).

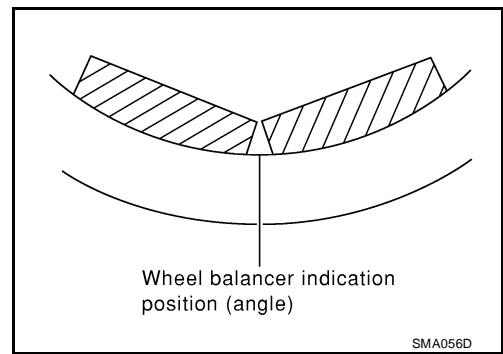
**CAUTION:**

**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 (at rim flange)	10 g (0.35 oz)

## Rotation

EES002RW

**NOTE:**

Follow the maintenance schedule for tire rotation service intervals. Refer to [MA-7, "PERIODIC MAINTENANCE"](#) .

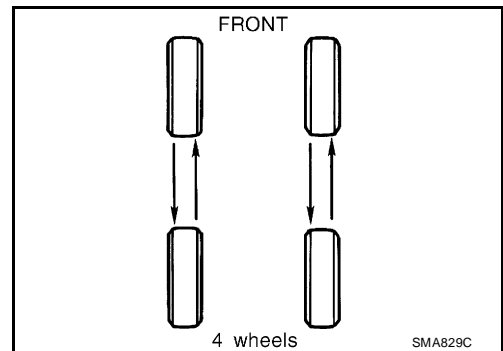
1. Rotate the tires on each side from front to back as shown. Do not include the spare tire when rotating the tires.

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

**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.**

2. Adjust the tire pressure to specification. Refer to [WT-31, "Tire"](#) .  
3. After the tire rotation, retighten the wheel nuts after the vehicle has been driven for 1,000 km (600 miles), and also after every wheel and tire have been installed such as after repairing a flat tire.



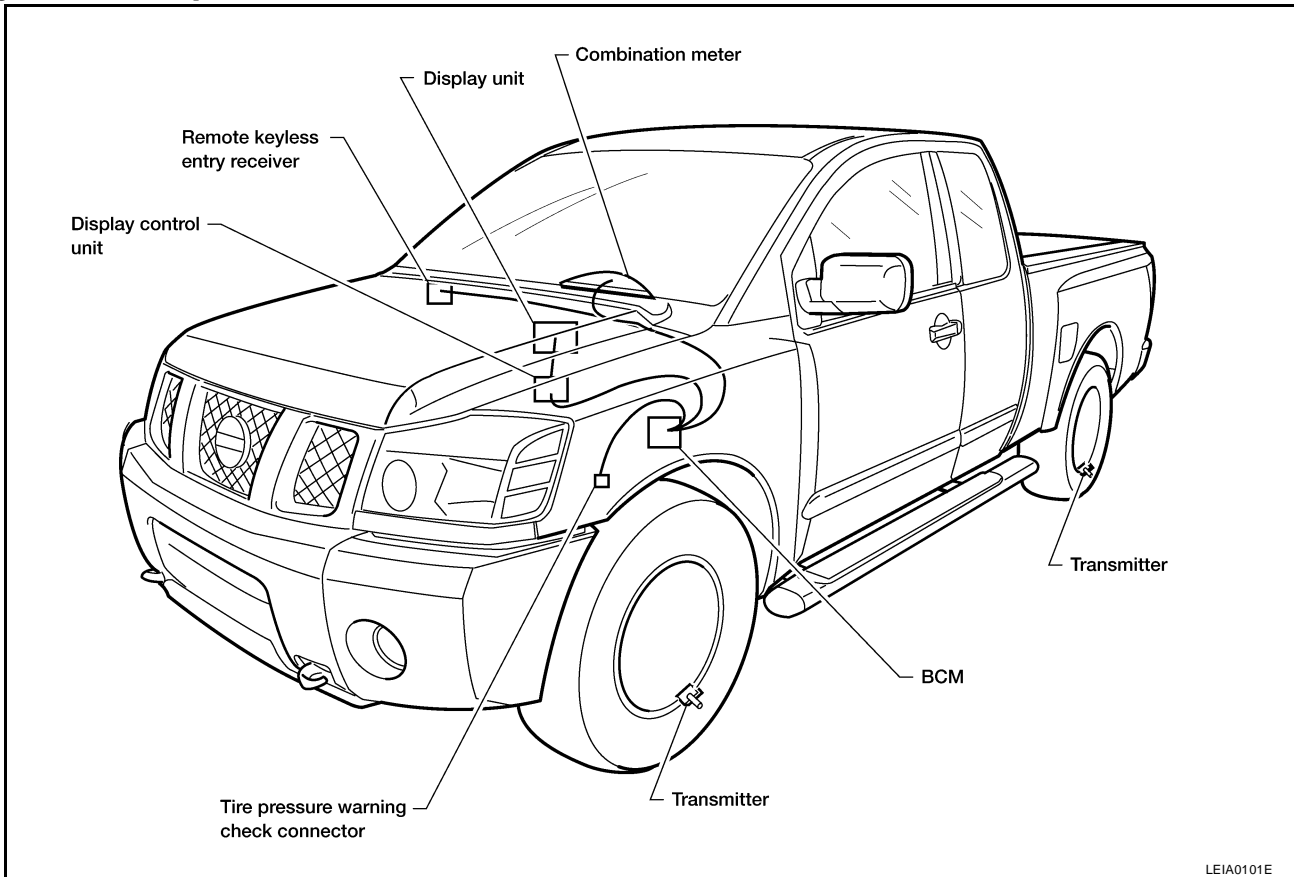
# LOW TIRE PRESSURE WARNING SYSTEM

## LOW TIRE PRESSURE WARNING SYSTEM

PF:40300

### System Components

EES002RX

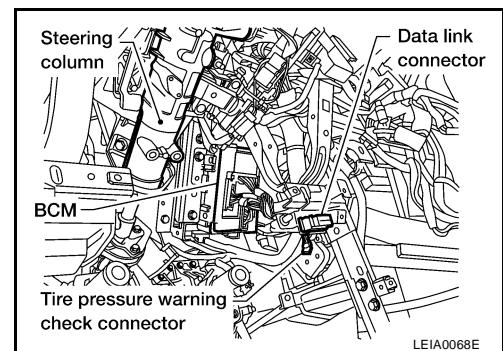


LEIA0101E

### System Description BODY CONTROL MODULE (BCM)

EES002RY

The BCM 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.



LEIA0068E

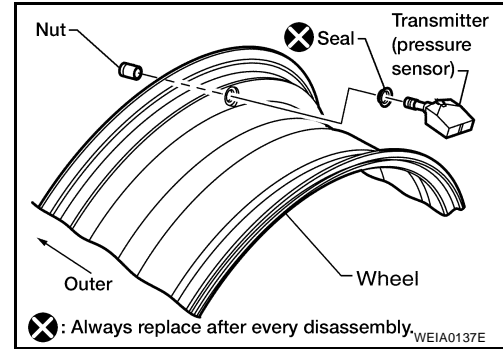
Condition	Low tire pressure warning lamp
System normal	On for 1 second after ignition ON
Tire less than 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) [Flat tire]	ON
Low tire pressure warning system malfunction	After key ON, flashes once per second for 1 minute, then stays ON



# LOW TIRE PRESSURE WARNING SYSTEM

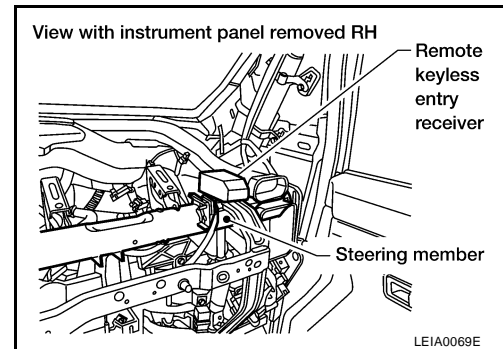
## TRANSMITTER

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.



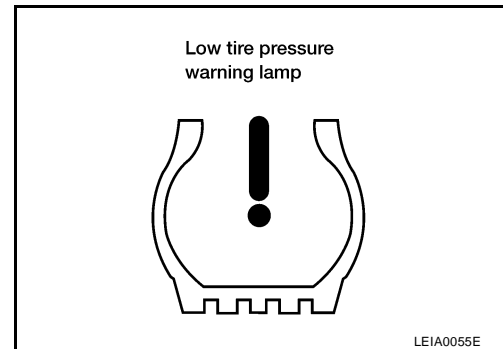
## REMOTE KEYLESS ENTRY RECEIVER

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

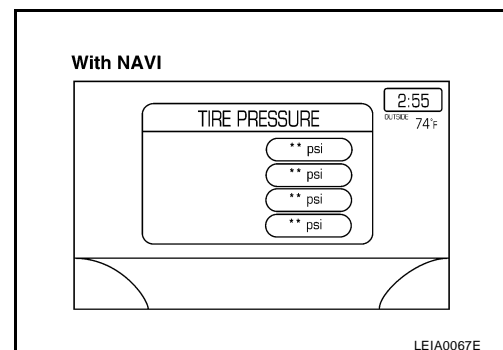
The combination meter receives tire pressure status from the BCM using CAN communication. When a low tire pressure condition is sensed by the BCM, the combination meter low tire pressure warning lamp is activated.



## DISPLAY UNIT (WITH NAVI)

Displays the air pressure of each tire.

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



# CAN COMMUNICATION

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## CAN COMMUNICATION

PFP:23710

### System Description

EES002RZ

Refer to [LAN-2, "SYSTEM DESCRIPTION"](#) .

# TROUBLE DIAGNOSES

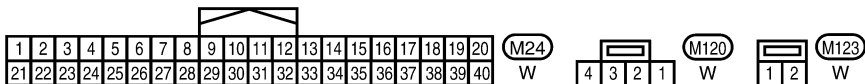
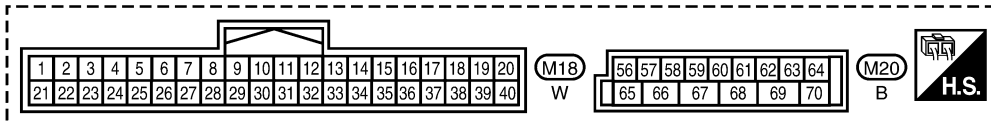
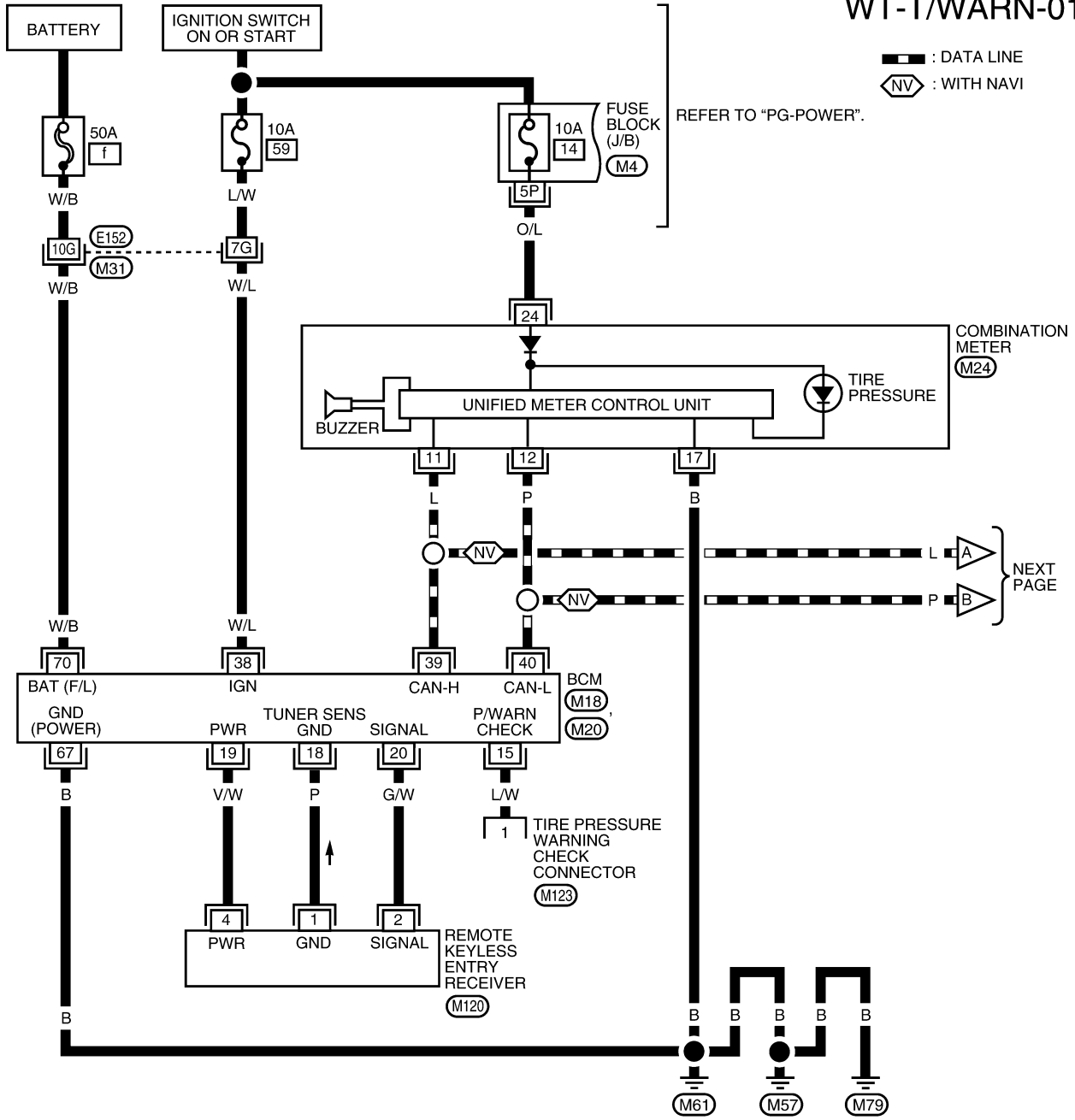
PFP:00004

EES002S0

## TROUBLE DIAGNOSES

### Wiring Diagram — T/WARN —

#### WT-T/WARN-01



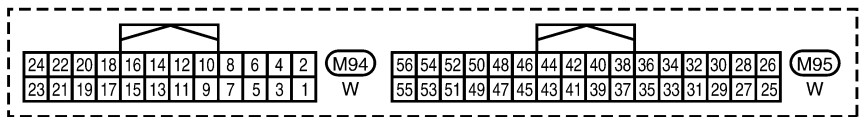
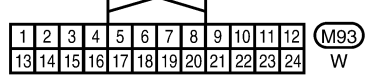
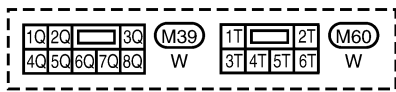
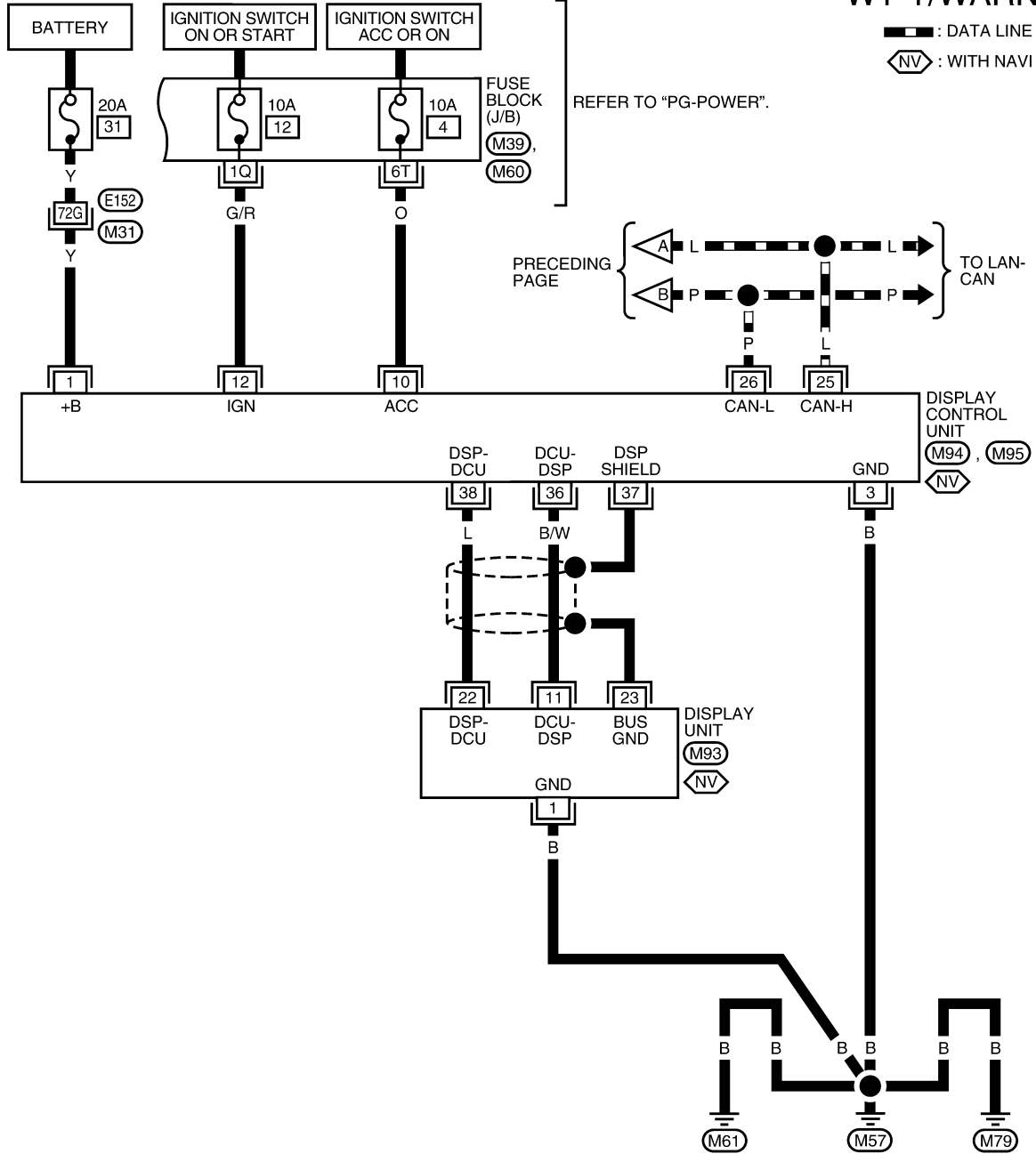
REFER TO THE FOLLOWING.

(M31) - SUPER MULTIPLE JUNCTION (SMJ)

WEWA0051E

# TROUBLE DIAGNOSES

## WT-T/WARN-02



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

WEWA0052E

# TROUBLE DIAGNOSES

## Terminals and Reference Values (BCM)

EES002S1

Refer to [BCS-12, "Terminals and Reference Values for BCM"](#).

## ID Registration Procedure

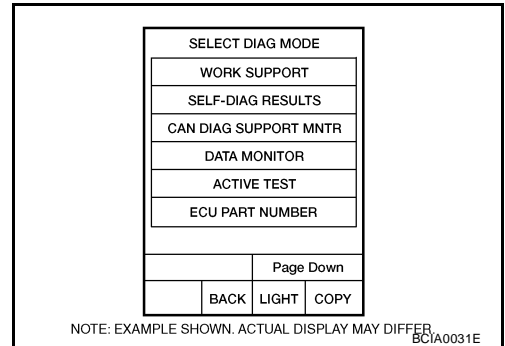
EES002S2

### ID REGISTRATION WITH TRANSMITTER ACTIVATION TOOL

#### NOTE:

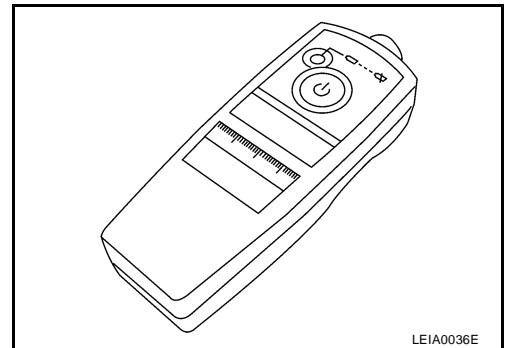
This procedure must be done after replacement of a low tire pressure warning transmitter or BCM. New replacement transmitters are provided "asleep" and must first be "woken up" using Transmitter Activation Tool J-45295 before ID registration can be performed.

1. Connect CONSULT-II. Refer to [GI-38, "CONSULT-II Start Procedure"](#).
2. Select "AIR PRESSURE MONITOR" on "SELECT TEST ITEM" screen.
3. Select "WORK SUPPORT" on "SELECT DIAG MODE" screen, and select "ID REGIST".



4. Push the transmitter activation tool against the tire near the front left transmitter. Press the button for 5 seconds.

**Tool number** : (J-45295)



5. 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 hazard warning lamps flash.

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

6. 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.

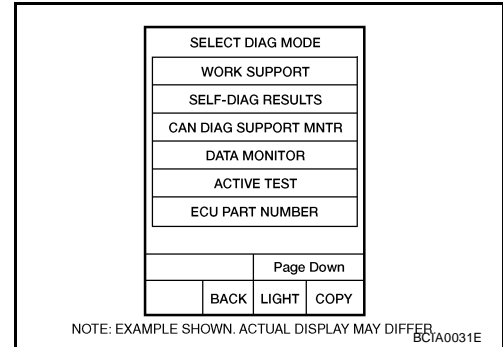
# TROUBLE DIAGNOSES

## ID REGISTRATION WITHOUT TRANSMITTER ACTIVATION TOOL

**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.

1. Connect CONSULT-II. Refer to [GI-38, "CONSULT-II Start Procedure"](#) .
2. Select "AIR PRESSURE MONITOR" on "SELECT TEST ITEM" screen.
3. Select "WORK SUPPORT" on "SELECT DIAG MODE" screen, and select "ID REGIST".
4. Adjust the tire pressure to the values shown in the table below 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)

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

Activation tire position	CONSULT-II
Front LH	"YET" ↓ "DONE"
Front RH	
Rear RH	
Rear LH	

6. Inflate all tires to proper pressure. Refer to [WT-31, "Tire"](#) .

# TROUBLE DIAGNOSES

## Transmitter Wake Up Operation

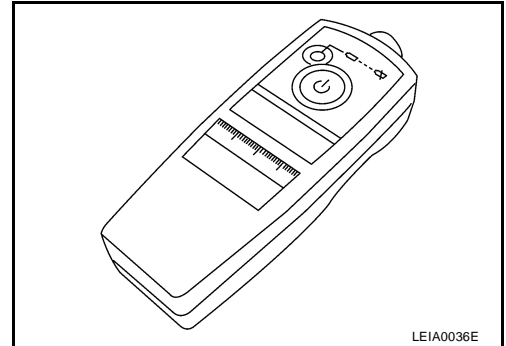
EES002S3

### NOTE:

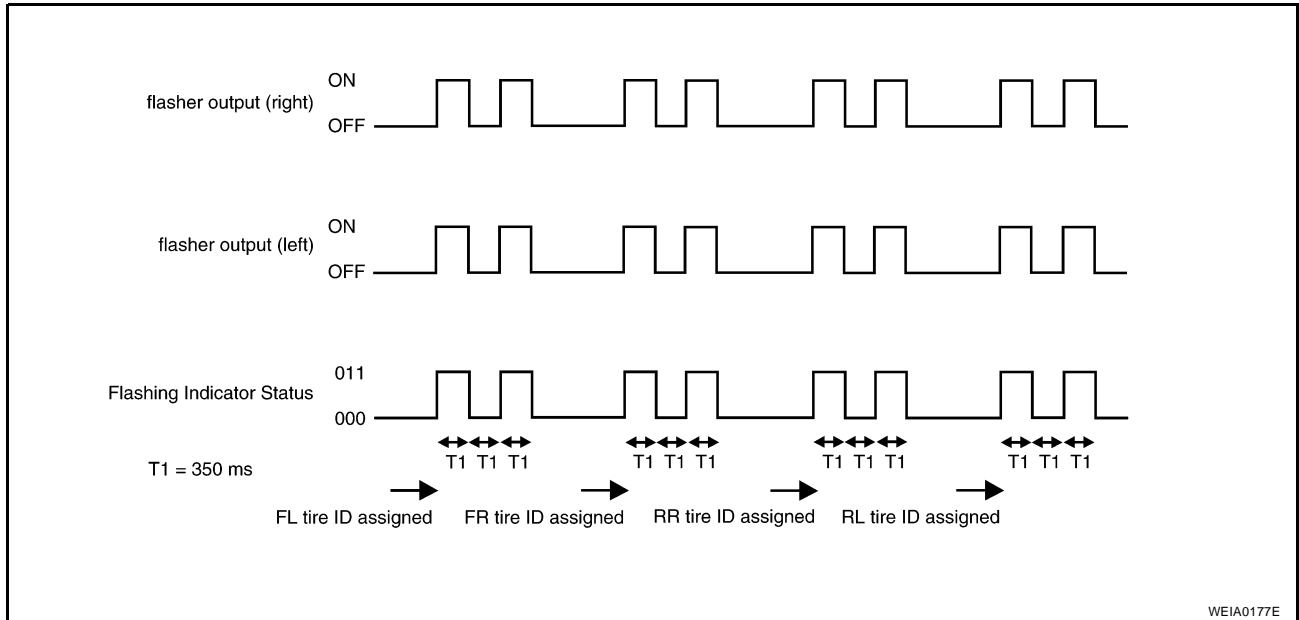
This procedure must be done after replacement of a low tire pressure warning transmitter or BCM. New replacement transmitters are provided "asleep" and must first be "woken up" using Transmitter Activation Tool J-45295 before ID registration can be performed.

1. 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 diagram below.

Tool number : (J-45295)



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

# TROUBLE DIAGNOSES

## CONSULT-II Function (BCM)

EES002S4

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

BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	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 DESCRIPTION

EES002S5

During driving, the low tire pressure warning 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 low tire pressure warning system detects low inflation pressure or an internal malfunction, the low tire pressure warning lamp in the combination meter comes on. The malfunction location is indicated by the low tire pressure warning lamp flashing and the buzzer sounding.

## 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



# TROUBLE DIAGNOSES

## Self-Diagnostic Results Mode

Diagnostic item		Diagnostic item is detected when ...	Reference page
Program card UED06A or earlier	Program card UED06B or later		
FLAT - TIRE - FL [C1704] FLAT - TIRE - FR [C1705] FLAT - TIRE - RR [C1706] FLAT - TIRE - RL [C1707]	LOW - PRESSURE - FL [C1704] LOW - PRESSURE - FR [C1705] LOW - PRESSURE - RR [C1706] LOW - PRESSURE - RL [C1707]	FL tire pressure 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less FR tire pressure 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less RR tire pressure 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less RL tire pressure 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less	—
[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.	<a href="#">WT-21</a>
[CHECKSUM- ERR] - FL [CHECKSUM- ERR] - FR [CHECKSUM- ERR] - RR [CHECKSUM- ERR] - RL		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.	<a href="#">WT-21</a>
[PRESSDATA- ERR] - FL [PRESSDATA- ERR] - FR [PRESSDATA- ERR] - RR [PRESSDATA- ERR] - RL		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.	<a href="#">WT-22</a>
[CODE- ERR] - FL [CODE- ERR] - FR [CODE- ERR] - RR [CODE- ERR] - RL		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.	<a href="#">WT-21</a>
[BATT - VOLT - LOW] - FL [BATT - VOLT - LOW] - FR [BATT - VOLT - LOW] - RR [BATT - VOLT - LOW] - RL		Battery voltage of FL transmitter drops. Battery voltage of FR transmitter drops. Battery voltage of RR transmitter drops. Battery voltage of RL transmitter drops.	<a href="#">WT-21</a>
VHCL_SPEED_SIG_ERR [C1729]		Vehicle speed signal is in error.	<a href="#">WT-23</a>

### 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-II.

## 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	<ul style="list-style-type: none"> <li>● Drive vehicle for a few minutes.</li> <li style="text-align: center;">or</li> <li>● Ignition switch ON and activation tool is transmitting activation signals.</li> </ul>	Tire pressure (kPa or psi)
ID REGST FL1 ID REGST FR1 ID REGST RR1 ID REGST RL1	Ignition switch ON	Registration ID: DONE No registration ID: YET
WARNING LAMP		Low tire pressure warning lamp on: ON Low tire pressure warning lamp off: OFF
BUZZER		Buzzer in combination meter on: ON Buzzer in combination meter off: OFF

### NOTE:

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

# TROUBLE DIAGNOSES

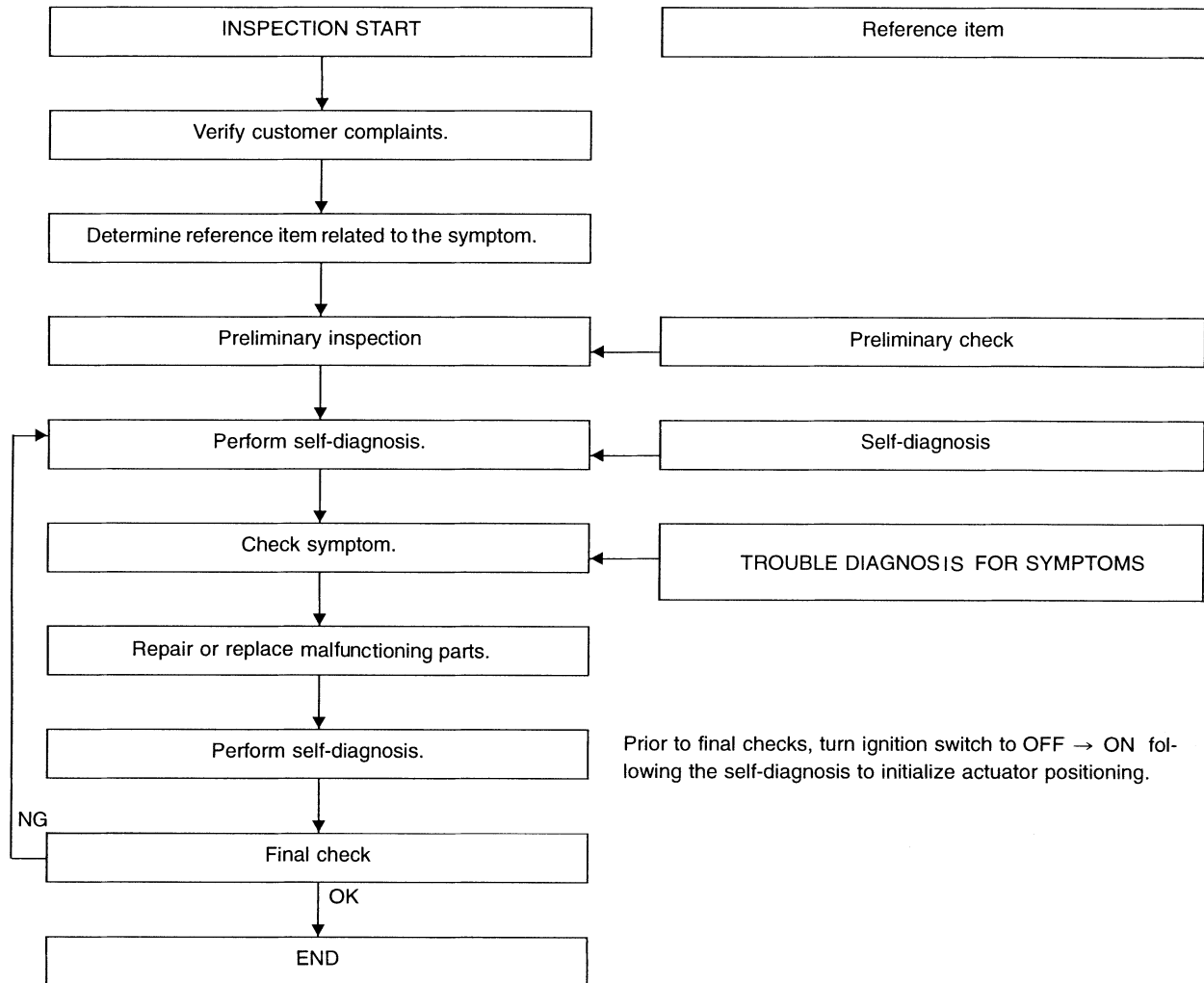
EES002S6

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

### INTRODUCTION

- 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-24](#)

# TROUBLE DIAGNOSES

## Preliminary Check

EES002S7

### BASIC INSPECTION

#### 1. CHECK BCM CONFIGURATION

Confirm BCM configuration for "DISPLAY STYLE" is set to "MODE2".  
Refer to [BCS-19, "READ CONFIGURATION PROCEDURE"](#) .

OK or NG

OK >> GO TO 2.

NG >> Change BCM configuration for "DISPLAY STYLE" to "MODE2". Refer to [BCS-22, "WRITE CONFIGURATION PROCEDURE"](#) .

#### 2. CHECK ALL TIRE PRESSURES

Check all tire pressures. Refer to [WT-31, "Tire"](#) .

OK or NG

OK >> GO TO 2.

NG >> Adjust tire pressure to specified value.

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

Check low tire pressure warning lamp activation.

Does warning lamp activate for 1 second when ignition switch is turned ON?

YES >> GO TO 3.

NO >> GO TO [WT-24, "Low Tire Pressure Warning Lamp Does Not Come On When Ignition Switch Is Turned On."](#) .

#### 4. CHECK BCM 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 battery in transmitter activation tool.

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# TROUBLE DIAGNOSES

## Flash Code/Symptom Chart

EES002S8

Flash Code or Symptom	Malfunction part	Reference page
15 16 17 18	FL tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less FR tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less RR tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less RL tire pressure drops to 193 kPa (2.0 kg/cm <sup>2</sup> , 28 psi) or less	—
21 22 23 24	Transmitter no data (FL) Transmitter no data (FR) Transmitter no data (RR) Transmitter no data (RL)	<a href="#">WT-21</a>
31 32 33 34	Transmitter checksum error (FL) Transmitter checksum error (FR) Transmitter checksum error (RR) Transmitter checksum error (RL)	<a href="#">WT-21</a>
35 36 37 38	Transmitter pressure data error (FL) Transmitter pressure data error (FR) Transmitter pressure data error (RR) Transmitter pressure data error (RL)	<a href="#">WT-22</a>
41 42 43 44	Transmitter function code error (FL) Transmitter function code error (FR) Transmitter function code error (RR) Transmitter function code error (RL)	<a href="#">WT-21</a>
45 46 47 48	Transmitter battery voltage low (FL) Transmitter battery voltage low (FR) Transmitter battery voltage low (RR) Transmitter battery voltage low (RL)	<a href="#">WT-21</a>
52	Vehicle speed signal	<a href="#">WT-23</a>
Low tire pressure warning lamp does not come on when ignition switch is turned on.	<ul style="list-style-type: none"> <li>● Fuse or combination meter</li> <li>● BCM connector or circuit</li> <li>● BCM</li> </ul>	<a href="#">WT-24</a>
Low tire pressure warning lamp stays on when ignition switch is turned on.	<ul style="list-style-type: none"> <li>● Combination meter</li> <li>● BCM connector or circuit</li> <li>● BCM</li> </ul>	<a href="#">WT-24</a>
Low tire pressure warning lamp flashes when ignition switch is turned on.	<ul style="list-style-type: none"> <li>● BCM harness connector or circuit</li> <li>● BCM</li> <li>● Transmitter's mode off</li> <li>● ID registration not completed yet</li> </ul>	<a href="#">WT-26</a>
Hazard warning lamps flash when ignition switch is turned on.	<ul style="list-style-type: none"> <li>● BCM harness connector or circuit</li> <li>● BCM</li> </ul>	<a href="#">WT-27</a>
ID registration cannot be completed.	<ul style="list-style-type: none"> <li>● Transmitter</li> <li>● Remote keyless entry receiver harness connector or circuit</li> <li>● Remote keyless entry receiver</li> <li>● BCM harness connector or circuit</li> <li>● BCM</li> </ul>	<a href="#">WT-28</a>

# TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

## TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

PF0:0000

### Data From Transmitter Not Being Received MALFUNCTION CODE NO. 21, 22, 23 OR 24 (DTC C1708, C1709, C1710 OR C1711)

EES002S9

#### 1. CHECK BCM

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

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-26, "REMOVAL AND INSTALLATION"](#) .
- NG >> Repair or replace remote keyless entry receiver connector.

#### 3. PERFORM ID REGISTRATION

Carry out ID registration of all transmitters. Refer to [WT-13, "ID Registration Procedure"](#) .

Is there a tire that cannot register ID?

- YES >> Replace transmitter of the tire, then GO TO 5. Refer to [WT-29, "Transmitter \(Pressure Sensor\)"](#) .
- NO >> GO TO 4.

#### 4. DRIVE VEHICLE

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 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. Refer to [WT-13, "ID Registration Procedure"](#) .
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 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.

### Transmitter Malfunction

#### MALFUNCTION CODE NO. 31, 32, 33, 34, 41, 42, 43, 44, 45, 46, 47 OR 48

EES002SA

#### 1. PERFORM ID REGISTRATION

1. Carry out ID registration of all transmitters. Refer to [WT-13, "ID Registration Procedure"](#) .
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

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## 2. REPLACE TRANSMITTER

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1. Check low tire pressure warning lamp again for flashing, replace malfunctioning transmitter. Refer to [WT-29, "Transmitter \(Pressure Sensor\)"](#) .
2. Carry out ID registration of all transmitters. Refer to [WT-13, "ID Registration Procedure"](#) .

Can ID registration of all transmitters be completed?

YES >> GO TO 3.

NO >> GO TO [WT-21, "Data From Transmitter Not Being Received"](#) .

## 3. DRIVE VEHICLE

---

1. Drive at a speed of 40 km/h (25 MPH) or more for 3 minutes, and then drive the vehicle at any speed for 10 minutes.
2. Check all tire pressures with CONSULT-II 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-29, "Transmitter \(Pressure Sensor\)"](#) .

### Transmitter Pressure Malfunction MALFUNCTION CODE NO. 35, 36, 37 OR 38

EES002SB

## 1. CHECK ALL TIRE PRESSURES

---

Check all tire pressures. Refer to [WT-31, "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

---

1. Carry out ID registration of all transmitters. Refer to [WT-13, "ID Registration Procedure"](#) .
2. Drive at a speed of 40 km/h (25 MPH) or more for several minutes without stopping.
3. Check all tire pressures with CONSULT-II 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-29, "Transmitter \(Pressure Sensor\)"](#) . GO TO 3.

NO >> GO TO 3.

## 3. ID REGISTRATION AND VEHICLE DRIVING

---

1. Carry out ID registration of all transmitters. Refer to [WT-13, "ID Registration Procedure"](#) .
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 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

## Vehicle Speed Signal MALFUNCTION CODE NO. 52 (DTC C1729)

EES002SC

### 1. SELF-DIAGNOSTIC RESULT CHECK

Using CONSULT-II, 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-42, "TROUBLE DIAGNOSIS"](#).
- NO >> GO TO 2.

### 2. CHECK BCM

Perform BCM diagnosis. Refer to [BCS-18, "CONSULT-II Function \(BCM\)"](#).

Inspection results OK?

- OK >> Perform Vehicle Speed Sensor Inspection. Refer to [AT-131, "Diagnostic Procedure"](#).
- NG >> Replace BCM. Refer to [BCS-26, "REMOVAL AND INSTALLATION"](#).

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# TROUBLE DIAGNOSIS FOR SYMPTOMS

## TROUBLE DIAGNOSIS FOR SYMPTOMS

PF:00007

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

EES002SD

#### DIAGNOSTIC PROCEDURE

#### 1. SELF-DIAGNOSTIC RESULT CHECK

Using CONSULT-II, 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-42, "TROUBLE DIAGNOSIS"](#) .
- NO >> GO TO 2.

#### 2. CHECK COMBINATION METER

Check combination meter operation. Refer to [DI-12, "Self-Diagnosis Mode of Combination Meter"](#) .

Inspection results OK?

- OK >> GO TO 3.
- NG >> Replace combination meter. Refer to [IP-13, "COMBINATION METER"](#) .

#### 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-26, "REMOVAL AND INSTALLATION"](#) .
- NO >> Check combination meter operation. Refer to [DI-12, "Self-Diagnosis Mode of Combination Meter"](#)

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

EES002SE

#### DIAGNOSTIC PROCEDURE

#### 1. CHECK BCM CONNECTORS

1. Turn ignition switch OFF.
2. Disconnect BCM harness connectors M18 and M20.
3. Check terminals for damage or loose connections.

Inspection results OK?

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

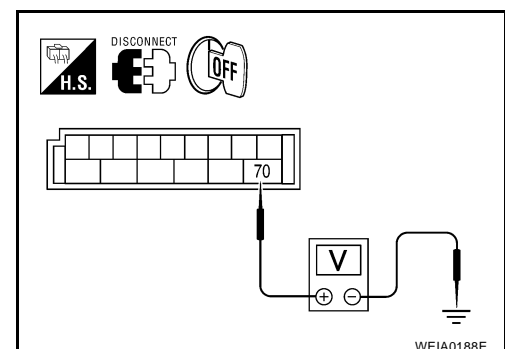
#### 2. CHECK BCM POWER SUPPLY CIRCUIT (BAT)

Check voltage between BCM harness connector M20 terminal 70 and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
Connector	Terminal	Battery voltage
M20	70	

OK or NG

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





# TROUBLE DIAGNOSIS FOR SYMPTOMS

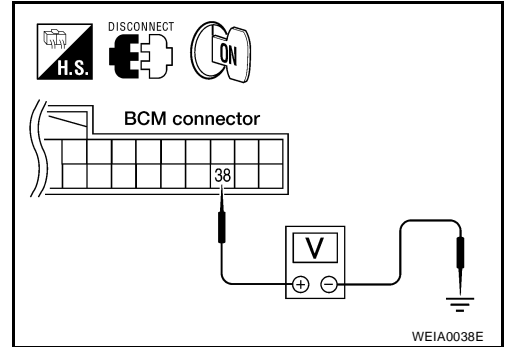
## 3. CHECK BCM POWER SUPPLY CIRCUIT (IGN)

1. Turn ignition switch ON.
2. Check voltage between BCM harness connector M18 terminal 38 and ground.

Terminals		Voltage (Approx.)	
(+)			(-)
Connector	Terminal	Ground	Battery voltage
M18	38		

OK or NG

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



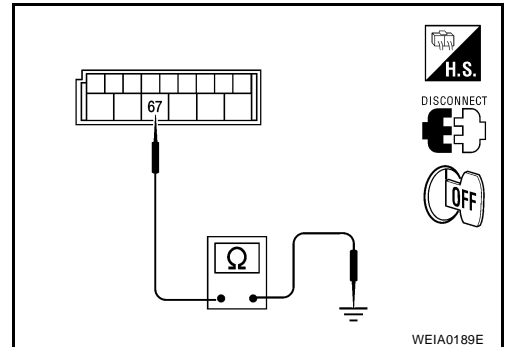
## 4. CHECK BCM GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between BCM harness connector M20 terminal 67 and ground.

Terminals		Continuity	
(+)			(-)
Connector	Terminal	Ground	Yes
M20	67		

OK or NG

- OK >> Replace BCM. Refer to [BCS-26, "REMOVAL AND INSTALLATION"](#) .  
 NG >> Repair BCM ground circuit.



# TROUBLE DIAGNOSIS FOR SYMPTOMS

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

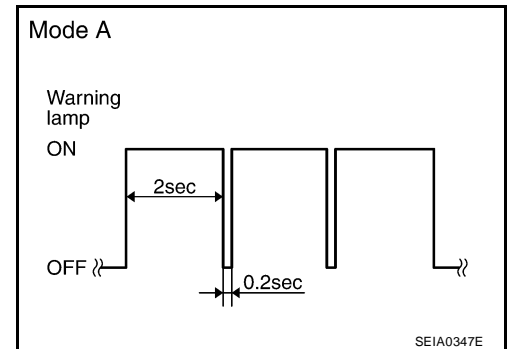
EES002SF

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



### DIAGNOSTIC PROCEDURE

#### 1. CHECK BCM CONNECTORS

1. Turn ignition switch OFF.
2. Disconnect BCM harness connectors M18 and M20.
3. Check terminals for damage or loose connections.

Inspection results OK?

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

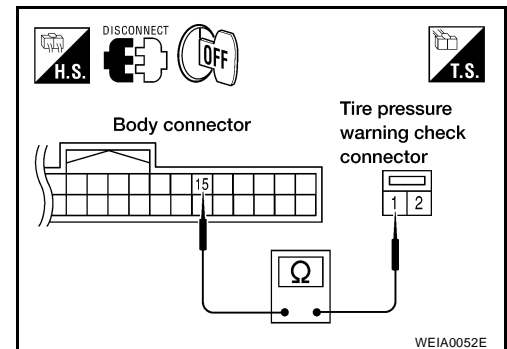
#### 2. CHECK TIRE PRESSURE WARNING CHECK CONNECTOR CIRCUIT

Check continuity between BCM harness connector M18 terminal 15 and check connector M123 terminal 1.

**Continuity should exist.**

OK or NG

- OK >> Replace BCM. Refer to [BCS-26, "REMOVAL AND INSTALLATION"](#).
- NG >> Repair or replace harness connector.



# TROUBLE DIAGNOSIS FOR SYMPTOMS

## Hazard Warning Lamps Flash When Ignition Switch Is Turned On

EES002SG

### DIAGNOSTIC PROCEDURE

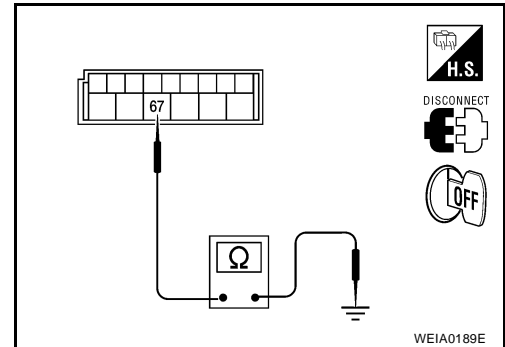
#### 1. CHECK BCM GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM harness connector M20.
3. Check continuity between BCM harness connector M20 terminal 67 and ground.

Terminals		Continuity
(+)	(-)	
Connector	Terminal	Yes
M20	67	

OK or NG

- OK >> Replace BCM. Refer to [BCS-26, "REMOVAL AND INSTALLATION"](#).
- NG >> Repair BCM ground circuit.



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# TROUBLE DIAGNOSIS FOR SYMPTOMS

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## “TIRE PRESSURE” Information In Display Unit Does Not Exist.

EES002SH

### DIAGNOSTIC PROCEDURE

#### 1. SELF-DIAGNOSTIC RESULT CHECK

---

Using CONSULT-II, 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-42, "TROUBLE DIAGNOSIS"](#) .
- NO >> GO TO 2.

#### 2. CHECK DISPLAY UNIT

---

Perform display unit self-diagnosis. Refer to [AV-117, "Self-Diagnosis Mode \(NAVI\)"](#) .

Inspection results OK?

- OK >> Replace BCM. Refer to [BCS-26, "REMOVAL AND INSTALLATION"](#) .
- NG >> Repair or replace malfunctioning parts.

## ID Registration Cannot Be Completed

EES002SI

### DIAGNOSTIC PROCEDURE

#### 1. PERFORM ID REGISTRATION OF ALL TRANSMITTERS

---

Carry out ID registration of all transmitters. Refer to [WT-13, "ID Registration Procedure"](#) .

Can ID registration of all transmitters be completed?

- YES >> Inspection End.
- NO >> GO TO [WT-21, "Data From Transmitter Not Being Received"](#) .

# REMOVAL AND INSTALLATION

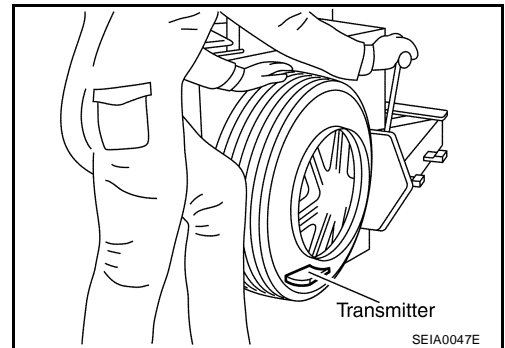
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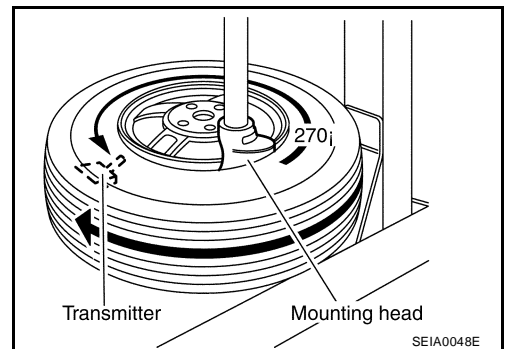
## REMOVAL AND INSTALLATION

### Transmitter (Pressure Sensor) REMOVAL

1. Deflate tire. Unscrew transmitter 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.

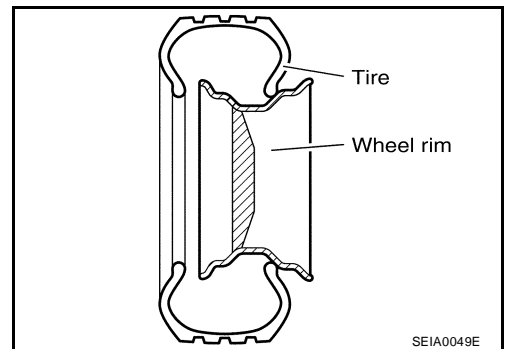


3. Turn tire so that valve hole is at bottom, and gently bounce the tire to ensure transmitter is near valve hole. Carefully lift tire onto turntable and position valve hole (and transmitter) 270 degrees from mounting/dismounting head.
4. Lubricate tire well, and remove top side of tire. Reach inside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



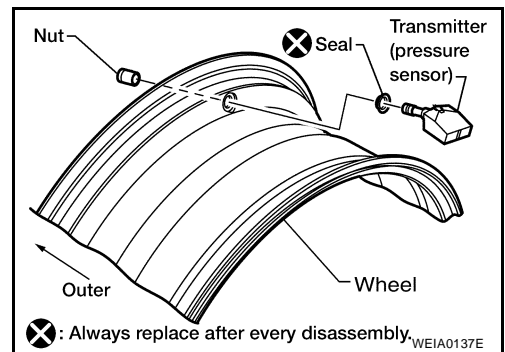
### INSTALLATION

1. Place first side of tire onto rim.



2. Mount transmitter on rim and tighten transmitter nut to specification.

**Transmitter nut : 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:**

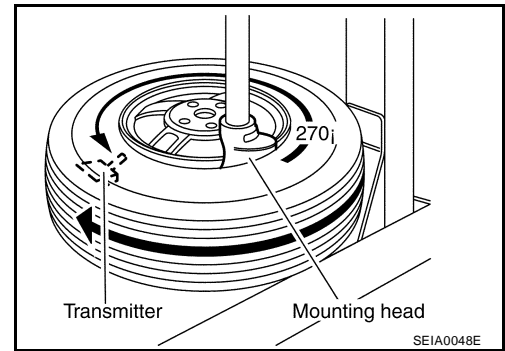
Do not touch transmitter with mounting head.

- 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-6, "Balancing Wheels"](#).
- 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 [WT-15, "Transmitter Wake Up Operation"](#).

- Adjust neutral position of steering angle sensor. Refer to [PS-7, "CHECKING NEUTRAL POSITION ON STEERING WHEEL"](#).



# SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

PF0:00030

### Road Wheel

EES002SK

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 allowable 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

EES002SL

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)	—

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WT  
F  
G  
H  
I  
J  
K  
L  
M

# SERVICE DATA AND SPECIFICATIONS (SDS)

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