

WT

SECTION

ROAD WHEELS & TIRES

A
B
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D

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CONTENTS

PRECAUTIONS 3	FUNCTION 17	
Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 3	CONSULT-II APPLICATION TO LOW TIRE PRESSURE WARNING SYSTEM 17	F
PREPARATION 4	How to Perform Trouble Diagnosis for Quick and Accurate Repair 19	G
Special Service Tool 4	INTRODUCTION 19	H
Commercial Service Tools 4	WORK FLOW 19	I
NOISE, VIBRATION, AND HARSHNESS (NVH)	Malfunction Code/Symptom Chart 20	J
TROUBLESHOOTING 5	DIAGNOSTIC PROCEDURE 20	K
NVH Troubleshooting Chart 5	JUDGEMENT SELF-DIAGNOSIS 20	L
ROAD WHEEL 6	Preliminary Check 22	M
Inspection 6	TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS 23	
ROAD WHEEL TIRE ASSEMBLY 7	Inspection 1: Transmitter or BCM 23	
PAX Run Flat Tires and Wheels 7	MALFUNCTION CODE NO. 21, 22, 23 OR 24 (DTC C1708, C1709, C1710 OR C1711) 23	
Conventional Tire and Wheel 7	Inspection 2: Transmitter - 1 23	
BALANCING WHEELS 7	MALFUNCTION CODE NO. 31, 32, 33, 34, 41, 42, 43, 44, 45, 46, 47 OR 48 23	
ROTATION 8	Inspection 3: Transmitter - 2 24	
LOW TIRE PRESSURE WARNING SYSTEM 9	MALFUNCTION CODE NO. 35, 36, 37 OR 38 ... 24	
System Components 9	Inspection 4: Vehicle Speed Signal 25	
System Description 9	MALFUNCTION CODE NO. 52 [DTC C1729] 25	
TRANSMITTER 9	TROUBLE DIAGNOSIS FOR SYMPTOMS 26	
REMOTE KEYLESS ENTRY RECEIVER 10	Inspection 1: Warning Lamp Does Not Come On When Ignition Switch Is Turned On. 26	
BCM (BODY CONTROL MODULE) 10	Inspection 2: Warning Lamp Stays On When Ignition Switch Is Turned On. 26	
COMBINATION METER 10	Inspection 3: Warning Lamp Flashes When Ignition Switch Is Turned On. 28	
DISPLAY UNIT 11	Inspection 4: Hazard Warning Lamp Flashes When Ignition Switch Is Turned On. 29	
CAN COMMUNICATION 12	Inspection 5: "TIRE PRESSURE" Information In Display Unit Does Not Exist. 30	
System Description 12	Inspection 6: ID Registration Cannot Be Completed.. 30	
TROUBLE DIAGNOSES 13	REMOVAL AND INSTALLATION 31	
Wiring Diagram — T/WARN — 13	Transmitter (Pressure Sensor) 31	
Terminals and Reference Values for BCM 14	REMOVAL 31	
ID Registration Procedure 14	INSTALLATION 31	
ID REGISTRATION WITH TRANSMITTER ACTIVATION TOOL 14	SERVICE DATA AND SPECIFICATIONS (SDS) 33	
ID REGISTRATION WITHOUT TRANSMITTER ACTIVATION TOOL 15		
Transmitter Wake Up Operation 16		
WITH TRANSMITTER ACTIVATION TOOL 16		
CONSULT-II Function (BCM) 17		
Self-Diagnosis 17		
DESCRIPTION 17		

Road Wheel	33
Tire	33

PRECAUTIONS

PRECAUTIONS

PFP:00001

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

EES0022N

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.

A
B
C
D
WT
F
G
H
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J
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PREPARATION

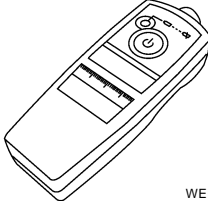
PREPARATION

PFP:00002

Special Service Tool

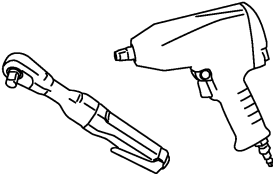
EES0021F

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">● Wake up● ID registration

Commercial Service Tools

EES0021G

Tool name	Description
Power tool  PBIC0190E	Removing wheel nuts

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:00003

NVH Troubleshooting Chart

EES0021H

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

Reference page		Possible cause and SUSPECTED PARTS																
		Improper installation, looseness	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	DRIVESHAFT	BRAKE	STEERING	
Symptom	TIRES	Noise	x	x	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	x	x
		Vibration				x				x	x	x			x			x
		Shimmy	x	x	x	x	x	x	x	x		x	x		x		x	x
		Shudder	x	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		x			
	ROAD WHEEL	Noise	x	x	x			x			x	x	x	x		x	x	x
		Shake	x	x	x			x				x	x	x		x	x	x
		Shimmy, shudder	x	x	x			x				x	x	x			x	x
		Poor quality ride or handling	x	x	x			x				x	x	x				

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ROAD WHEEL

ROAD WHEEL

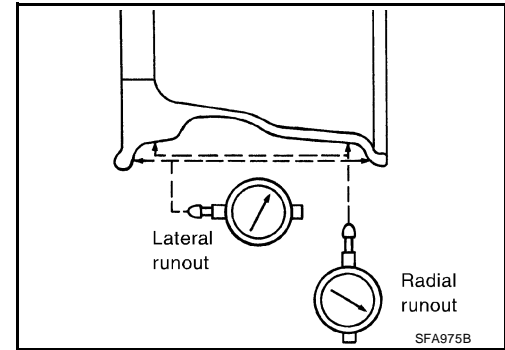
PFP:40300

Inspection

EES0022L

1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.
 - a. Remove tire from aluminum wheel and mount on a tire balance machine.
 - b. Set dial indicator as shown.

Wheel runout (Dial indicator value) : Refer to [WT-33, "Road Wheel"](#) .



3. Check front wheel bearings for looseness. Refer to [FAX-5, "FRONT WHEEL BEARING"](#) .
4. Check front suspension for looseness. Refer to [FSU-6, "FRONT SUSPENSION PARTS"](#) .

ROAD WHEEL TIRE ASSEMBLY

ROAD WHEEL TIRE ASSEMBLY

PFP:40300

PAX Run Flat Tires and Wheels

EES0022M

CAUTION:

- Servicing PAX run flat tires and wheels requires special tire equipment and training. **DO NOT** service PAX Run Flat tires and wheels with conventional tire servicing equipment or damage to the tire and wheel will result.
- If a PAX run flat tire and wheel [or transmitter (pressure sensor)] requires service, and the proper servicing equipment is not available, then replace the complete PAX tire and wheel assembly.

Conventional Tire and Wheel BALANCING WHEELS

EES0021J

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

CAUTION:

Be careful not to scratch the road wheel during removal.

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

CAUTION:

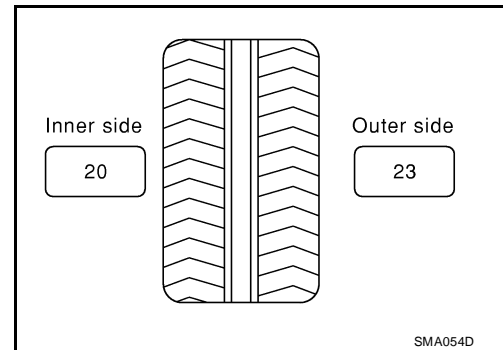
- **Be careful not to scratch the road wheel during removal.**
- **After removing double-faced adhesive tape, wipe clean traces of releasing agent from the road wheel.**

3. Set road wheel on wheel balancer using the center hole as a guide. Start the tire balance machine.
 - 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 road wheels.

4. When inner and outer unbalance values are shown on the wheel balancer indicator, multiply outer unbalance 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 above 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 road wheel.**



Calculation:

Indicated unbalance value \times 1.6 = balance weight to be installed

Calculation example:

23 g (0.81 oz) \times 1.6 = 38.33 g (1.35 oz) = 40 g (1.41 oz) balance weight (closer to calculated balance weight value)

NOTE:

The selected balance weight value must be the closest balance weight available to the calculated balance weight value.

Example:

37.4 = 35 g (1.23 oz)

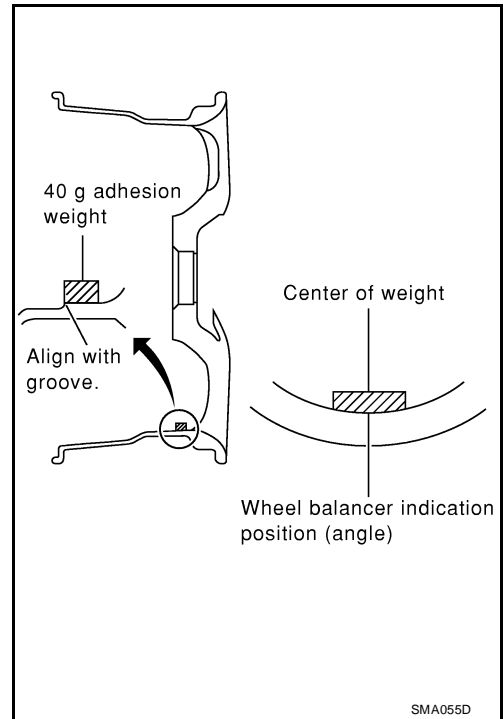
37.5 = 40 g (1.41 oz)

ROAD WHEEL TIRE ASSEMBLY

- Install balance weight in the position shown.
- When installing balance weight to road wheels, set it into the grooved area on the inner wall of the road wheel as shown in the figure 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 pieces of balance weight.



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

CAUTION:

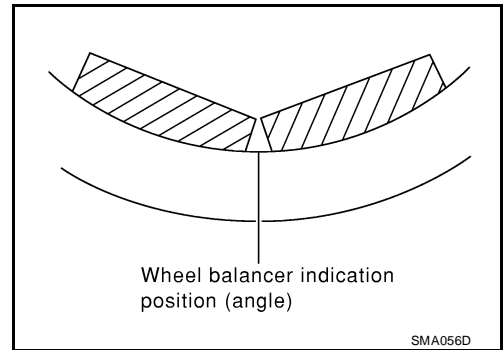
Do not install one balance weight piece on top of another.

- Start wheel balancer again.
- 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.

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



Wheel balance (Maximum allowable unbalance):

Maximum allowable unbalance	Dynamic (At rim flange)	Less than 5 g (0.18 oz) (per side)
	Static (At rim flange)	Less than 10 g (0.35 oz.)

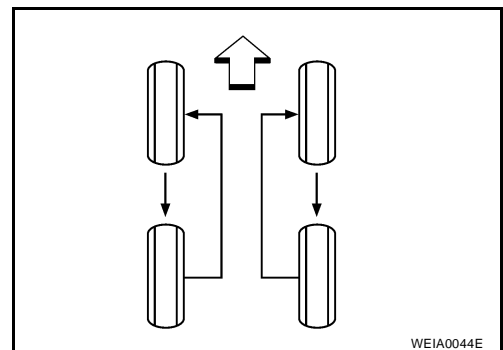
ROTATION

- After rotating the tires, adjust the tire pressure.
- Retighten the wheel nuts when the vehicle has been driven for 1,000 km (600 miles) (also in cases of a flat tire, etc.).

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.

Tightening torque : 112 N·m (11 kg·m, 83 ft·lb) of wheel nut



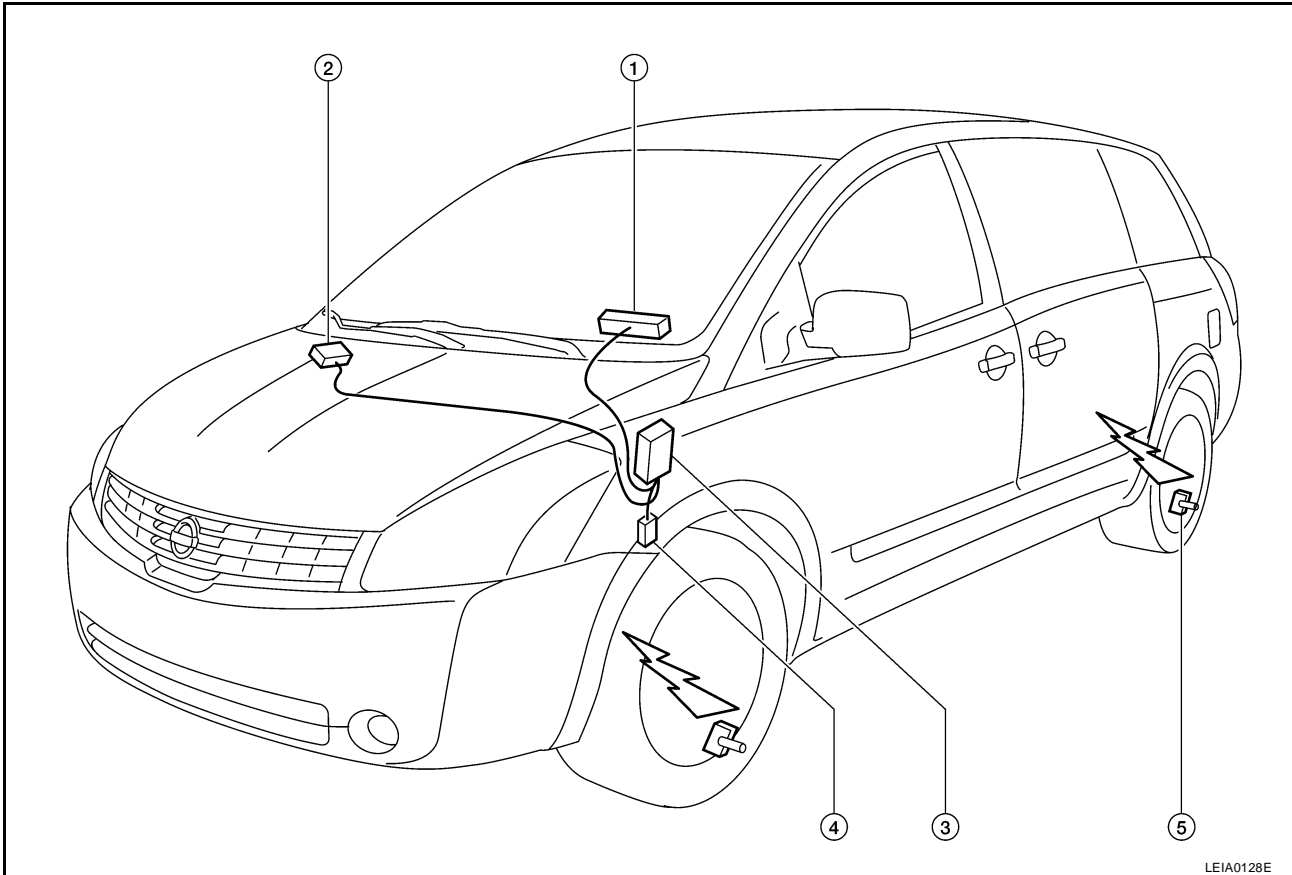
LOW TIRE PRESSURE WARNING SYSTEM

LOW TIRE PRESSURE WARNING SYSTEM

PFP:40300

System Components

EES0021L



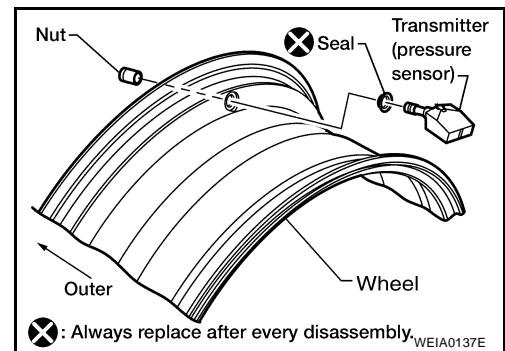
LEIA0128E

- 1. Combination meter
- 2. Remote keyless entry receiver
- 3. BCM
- 4. Tire pressure warning check connector
- 5. Transmitter

System Description TRANSMITTER

EES0021M

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.

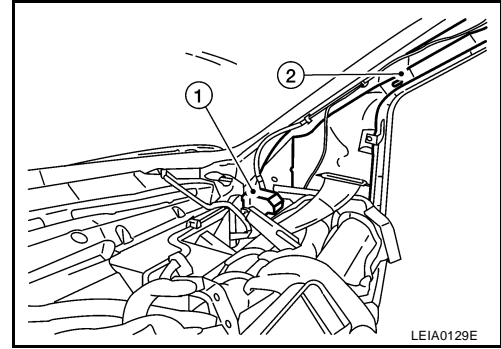


⊗: Always replace after every disassembly. WEIA0137E

LOW TIRE PRESSURE WARNING SYSTEM

REMOTE KEYLESS ENTRY RECEIVER

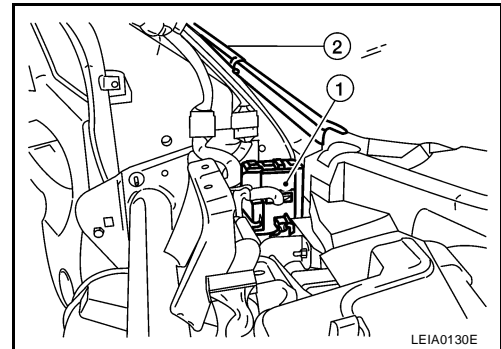
The remote keyless entry receiver (1), which is located near the front pillar RH (2), is shown with the instrument panel removed. This remote keyless entry receiver receives the air pressure signal transmitted by the transmitter in each wheel.



BCM (BODY CONTROL MODULE)

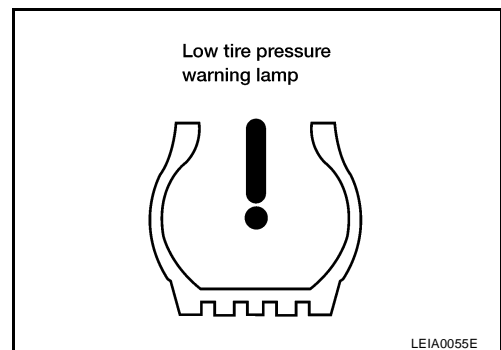
The BCM (1), which is located near the front pillar LH (2), is shown with the instrument panel removed. This BCM reads the air pressure signal received by the remote keyless entry receiver, and controls the combination meter warning lamp and the buzzer operations as shown below. It also has a judgement function to detect a system malfunction.

Condition	Warning lamp	Buzzer
Less than 193 kPa (2.0 kg/cm ² , 28 psi) [Flat tire]	ON	OFF
Less than 121 kPa (1.23 kg/cm ² , 17.5 psi) [Flat tire] (With PAX Run Flat tire and wheel)	Flash (Twice per second)	ON (10 seconds after ignition switch ON)
System malfunction	After key ON, flashes once per second for 1 minute, then stays ON	OFF
System normal	On for 1 second after ignition ON	OFF



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 and buzzer are activated.

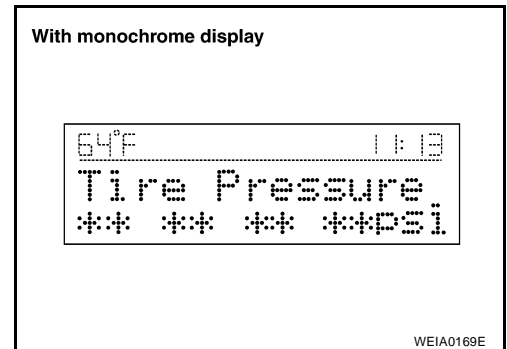
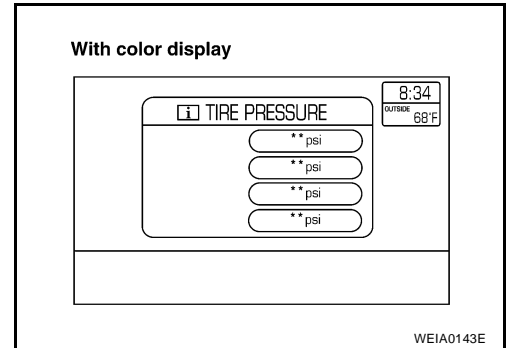


LOW TIRE PRESSURE WARNING SYSTEM

DISPLAY UNIT

Displays the air pressure of each tire.

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



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C
D
WT
F
G
H
I
J
K
L
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CAN COMMUNICATION

CAN COMMUNICATION

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System Description

EES0021N

Refer to [LAN-4, "SYSTEM DESCRIPTION"](#) .

TROUBLE DIAGNOSES

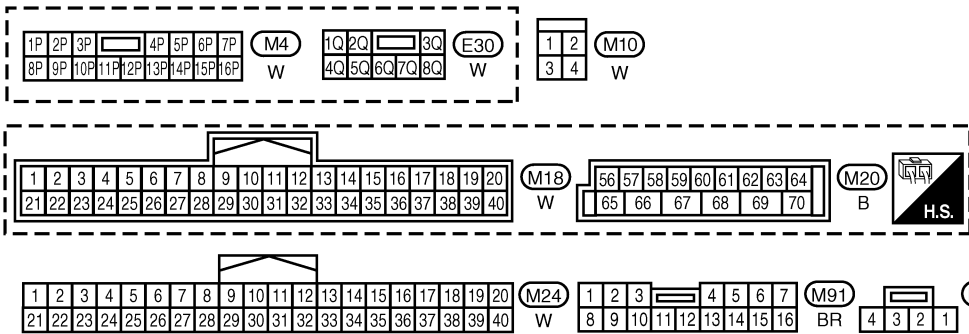
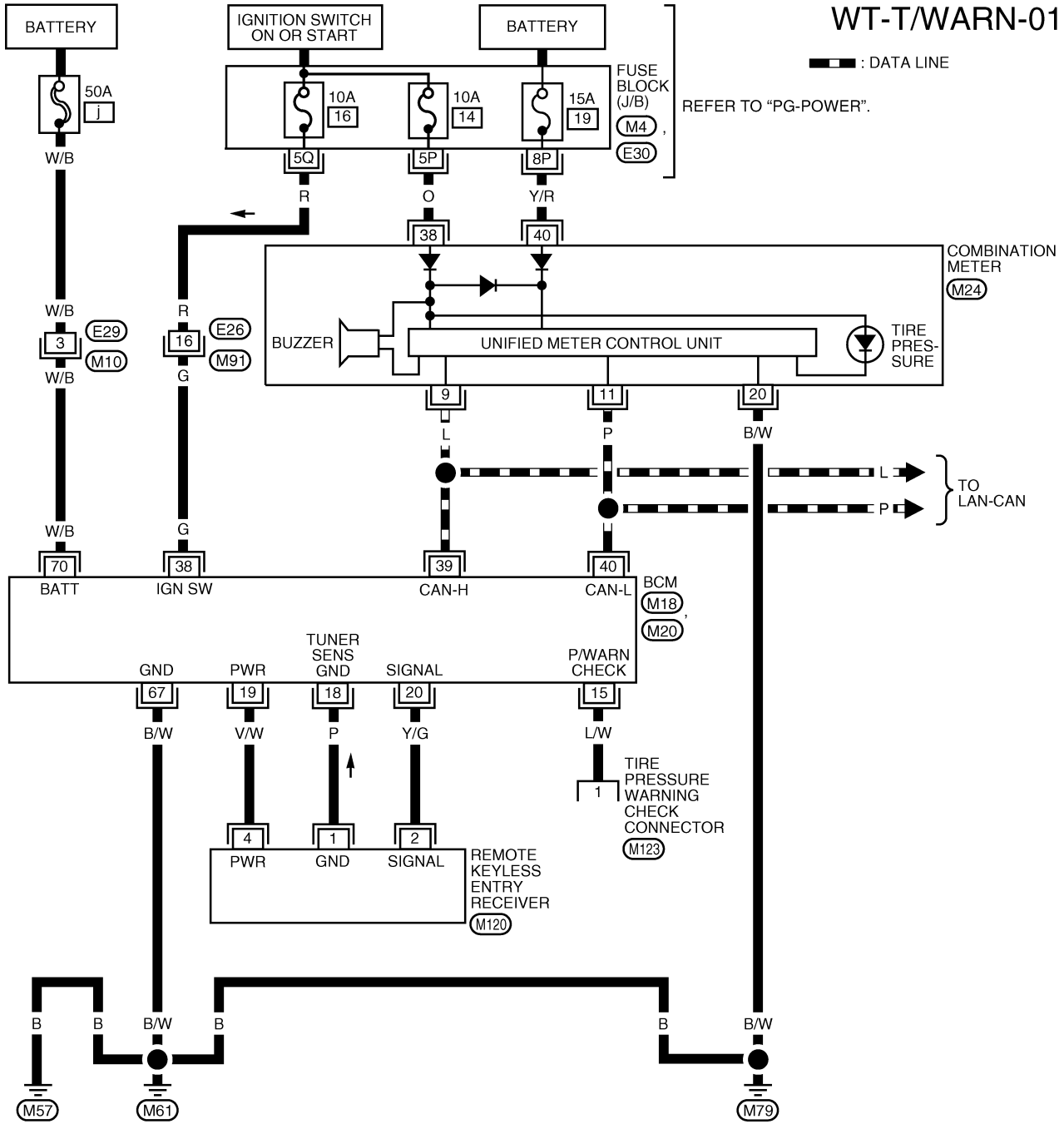
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TROUBLE DIAGNOSES

Wiring Diagram — T/WARN —

WT-T/WARN-01



WEWA0066E

TROUBLE DIAGNOSES

EES0021P

Terminals and Reference Values for BCM

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

ID Registration Procedure

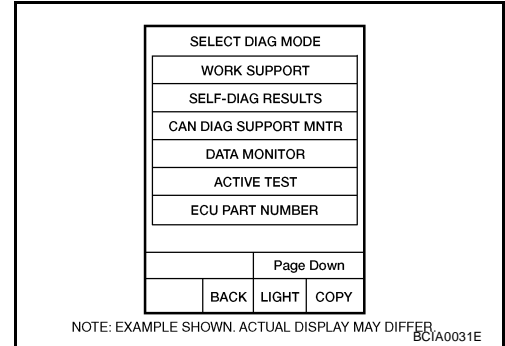
EES0021Q

ID REGISTRATION WITH TRANSMITTER ACTIVATION TOOL

NOTE:

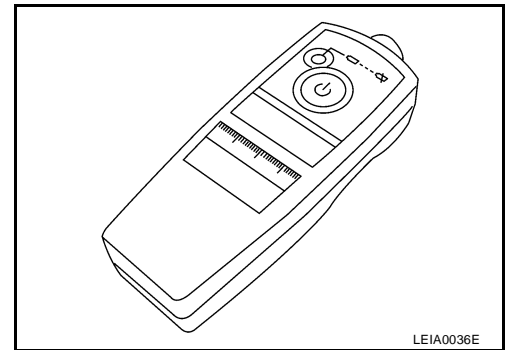
This procedure must be done after replacement of a low tire pressure warning transmitter or BCM. New replacement transmitters are provided "asleep" and must first be "woken up" using Transmitter Activation Tool J-45295 before ID registration can be performed.

1. Connect CONSULT-II. Refer to [GI-37, "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.

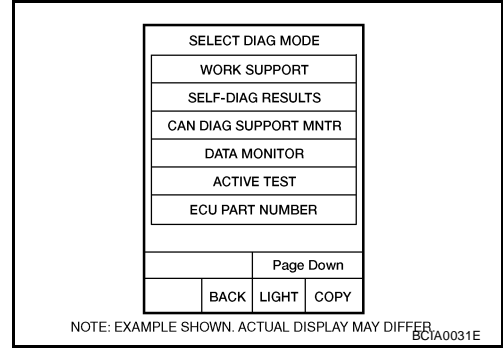
TROUBLE DIAGNOSES

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-37, "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 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 ² , 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-33, "Tire"](#) .

TROUBLE DIAGNOSES

EES002.1R

Transmitter Wake Up Operation WITH TRANSMITTER ACTIVATION TOOL

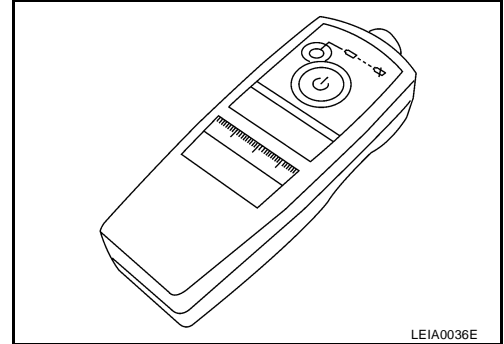
NOTE:

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.

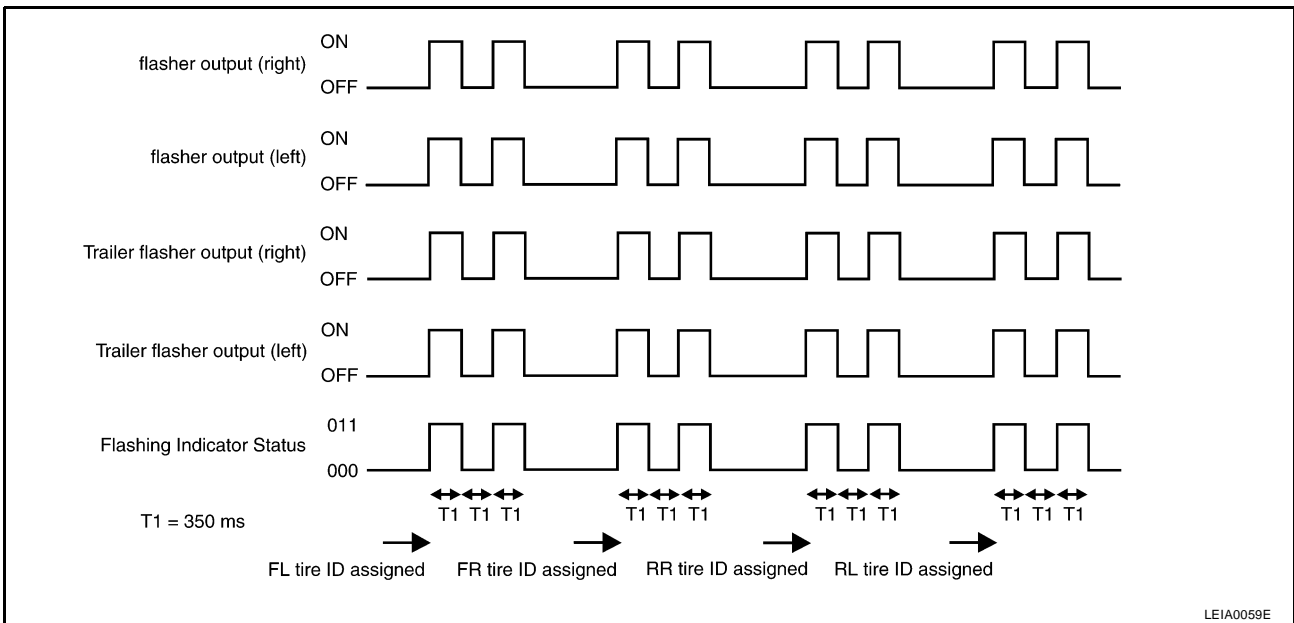
1. Push the transmitter activation tool against the tire near the front left transmitter. Press the button for 5 seconds.

Tool number : (J-45295)

- With ignition switch ON, as the hazard 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. Refer to [LT-114, "TRAILER TOW"](#).



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

TROUBLE DIAGNOSES

CONSULT-II Function (BCM)

EES0021S

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

EES0021T

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, the warning lamp in the combination meter comes on and the buzzer may sound (with PAX tires). The malfunction location is indicated by the warning lamp flashing.

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		
PAX - FAIL - FL [C1730] PAX - FAIL - FR [C1731] PAX - FAIL - RR [C1732] PAX - FAIL - RL [C1733]	FLAT - TIRE - FL [C1730] FLAT - TIRE - FR [C1731] FLAT - TIRE - RR [C1732] FLAT - TIRE - RL [C1733]	FL tire pressure 121 kPa (1.23 kg/cm ² , 17.5 psi) or less FR tire pressure 121 kPa (1.23 kg/cm ² , 17.5 psi) or less RR tire pressure 121 kPa (1.23 kg/cm ² , 17.5 psi) or less RL tire pressure 121 kPa (1.23 kg/cm ² , 17.5 psi) or less	—
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 ² , 28 psi) or less FR tire pressure 193 kPa (2.0 kg/cm ² , 28 psi) or less RR tire pressure 193 kPa (2.0 kg/cm ² , 28 psi) or less RL tire pressure 193 kPa (2.0 kg/cm ² , 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.	WT-23
[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.	WT-23
[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.	WT-24
[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.	WT-23
[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.	WT-23
VHCL_SPEED_SIG_ERR [C1729]		Vehicle speed signal is in error.	WT-25

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"> ● Drive vehicle for a few minutes. <li style="text-align: center;">or ● Ignition switch ON and activation tool is transmitting activation signals. 	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 else the actual malfunction location may be different from that displayed on CONSULT-II.

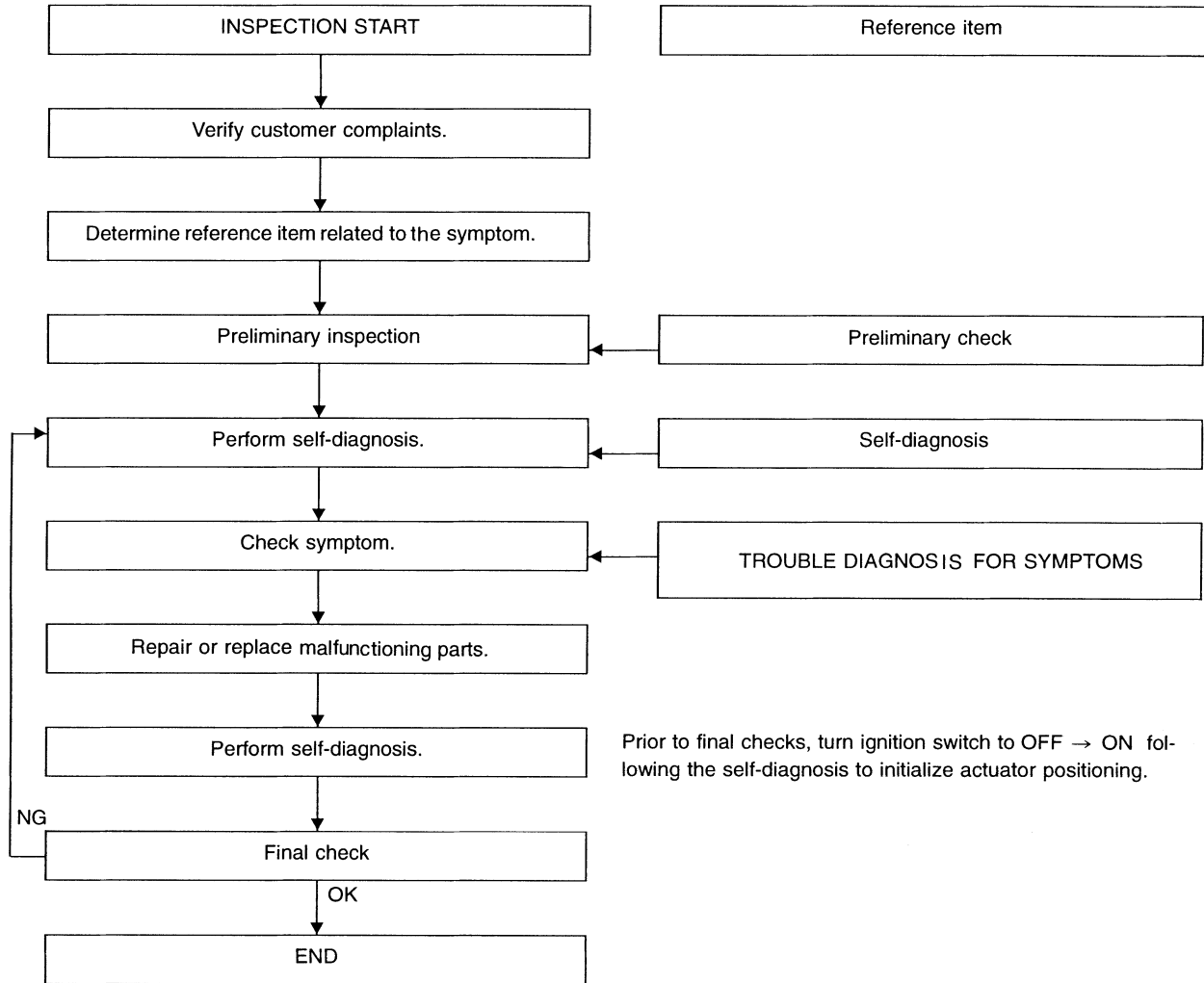
TROUBLE DIAGNOSES

EES0021U

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



Preliminary check: [WT-22](#)

Self-diagnosis: [WT-17](#)

Trouble diagnosis for symptoms: [WT-26](#)

SEIA0100E

TROUBLE DIAGNOSES

EES0021W

Malfunction Code/Symptom Chart DIAGNOSTIC PROCEDURE

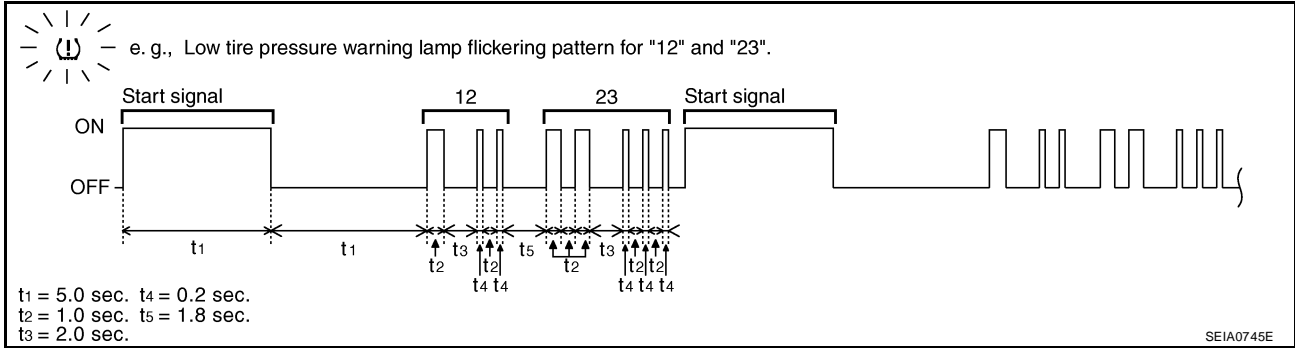
1. Start the engine.
2. Perform the following procedures to enter the corresponding signals.
 - Ground the tire pressure warning check harness connector terminal 1 for more than 5 seconds.
 - Read the flickering of the low tire pressure lamp. Refer to [WT-20, "JUDGEMENT SELF-DIAGNOSIS"](#).

NOTE:

When the low tire pressure warning lamp flashes 5 Hz and continues repeating it, the system is normal.

JUDGEMENT SELF-DIAGNOSIS

When a malfunction is detected, the malfunction route is indicated by flickering of the low tire pressure warning lamp.



NOTE:

When the low tire pressure warning lamp flashes 5 Hz and continues repeating it, the system is normal.

Code/Symptom	Malfunction part	Reference page
06	PAX fail FL. Pressure drops to 121 kPa (1.23 kg/cm ² , 17.5 psi) or less	—
07	PAX fail FR. Pressure drops to 121 kPa (1.23 kg/cm ² , 17.5 psi) or less	
08	PAX fail RR. Pressure drops to 121 kPa (1.23 kg/cm ² , 17.5 psi) or less	
09	PAX fail RL. Pressure drops to 121 kPa (1.23 kg/cm ² , 17.5 psi) or less	
15	Front-left tire pressure drops to 193 kPa (2.0 kg/cm ² , 28 psi) or less	—
16	Front-right tire pressure drops to 193 kPa (2.0 kg/cm ² , 28 psi) or less	
17	Rear-right tire pressure drops to 193 kPa (2.0 kg/cm ² , 28 psi) or less	
18	Rear-left tire pressure drops to 193 kPa (2.0 kg/cm ² , 28 psi) or less	
21	Transmitter no data (front - left)	WT-23, "Inspection 1: Transmitter or BCM"
22	Transmitter no data (front - right)	
23	Transmitter no data (rear - right)	
24	Transmitter no data (rear - left)	
31	Transmitter checksum error (front - left)	WT-23, "Inspection 2: Transmitter - 1"
32	Transmitter checksum error (front - right)	
33	Transmitter checksum error (rear - right)	
34	Transmitter checksum error (rear - left)	
35	Transmitter pressure data error (front - left)	WT-24, "Inspection 3: Transmitter - 2"
36	Transmitter pressure data error (front - right)	
37	Transmitter pressure data error (rear - right)	
38	Transmitter pressure data error (rear - left)	
41	Transmitter function code error (front - left)	WT-23, "Inspection 2: Transmitter - 1"
42	Transmitter function code error (front - right)	
43	Transmitter function code error (rear - right)	
44	Transmitter function code error (rear - left)	
45	Transmitter battery voltage low (front - left)	WT-23, "Inspection 2: Transmitter - 1"
46	Transmitter battery voltage low (front - right)	
47	Transmitter battery voltage low (rear - right)	
48	Transmitter battery voltage low (rear - left)	

TROUBLE DIAGNOSES

Code/Symptom	Malfunction part	Reference page
52	Vehicle speed signal	WT-25. "Inspection 4: Vehicle Speed Signal"
Low tire pressure warning lamp does not come on when ignition switch is turned on.	Fuse or combination meter BCM connector or circuit BCM	WT-26. "Inspection 1: Warning Lamp Does Not Come On When Ignition Switch Is Turned On."
Low tire pressure warning lamp stays on when ignition switch is turned on.	Fuse or combination meter BCM connector or circuit BCM	WT-26. "Inspection 2: Warning Lamp Stays On When Ignition Switch Is Turned On."
Low tire pressure warning lamp flashes when ignition switch is turned on.	BCM harness connector or circuit BCM Transmitter's mode off ID registration not yet completed	WT-28. "Inspection 3: Warning Lamp Flashes When Ignition Switch Is Turned On."
Hazard warning lamp flashes when ignition switch is turned on.	BCM harness connector or circuit BCM	WT-29. "Inspection 4: Hazard Warning Lamp Flashes When Ignition Switch Is Turned On."
"TIRE PRESSURE" information in display unit does not exist.	Fuse Display unit BCM	WT-30. "Inspection 5: "TIRE PRESSURE" Information In Display Unit Does Not Exist."
ID registration cannot be completed.	Transmitter Remote keyless entry receiver harness connector or circuit Remote keyless entry receiver	WT-30. "Inspection 6: ID Registration Cannot Be Completed"

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TROUBLE DIAGNOSES

EES002EH

Preliminary Check

BASIC INSPECTION

1. CHECK ALL TIRE PRESSURES

Check all tire pressures. Refer to [WT-33, "Tire"](#) .

OK or NG

- OK >> GO TO 2.
- NG >> Adjust tire pressure to specified value.

2. 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.

3. 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.

4. CHECK TRANSMITTER ACTIVATION TOOL

Check transmitter activation tool battery.

OK or NG

- OK >> Carry out self-diagnosis.
- NG >> Replace transmitter activation tool battery.

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

PF0:0000

Inspection 1: Transmitter or BCM

EES0021X

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

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.
- 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

EES0021Y

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

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-23, "Inspection 1: Transmitter or BCM"](#) .

3. VEHICLE DRIVING

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 >> Replace malfunctioning transmitter, and perform "Step 3" again.

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

EES0021Z

1. CHECK ALL TIRE PRESSURES

Check all tire pressures. Refer to [WT-33, "Tire"](#) .

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

NO >> GO TO 2.

YES >> Adjust tire pressure to specified value.

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. Then GO TO 3.

3. ID REGISTRATION AND VEHICLE DRIVING

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

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

Inspection 4: Vehicle Speed Signal MALFUNCTION CODE NO. 52 [DTC C1729]

EES00220

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-44, "TROUBLE DIAGNOSIS"](#) .
- NO >> GO TO 2.

2. CHECK BCM

Perform BCM diagnosis. Refer to [BCS-17, "CONSULT-II START PROCEDURE"](#) .

Inspection results OK?

- OK >> Perform Vehicle Speed Sensor Inspection. Refer to [AT-112, "Diagnostic Procedure"](#) .
- NG >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .

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TROUBLE DIAGNOSIS FOR SYMPTOMS

TROUBLE DIAGNOSIS FOR SYMPTOMS

PF:00007

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

EES00221

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-44, "TROUBLE DIAGNOSIS"](#).
- 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-19, "Trouble Diagnosis"](#).

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-25, "Removal and Installation of BCM"](#).
- NO >> Check combination meter and repair or replace.

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

EES00222

DIAGNOSTIC PROCEDURE

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect BCM harness connectors M18, M19 and M20.
3. Check terminals for damage or loose connections.

Inspection results OK?

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

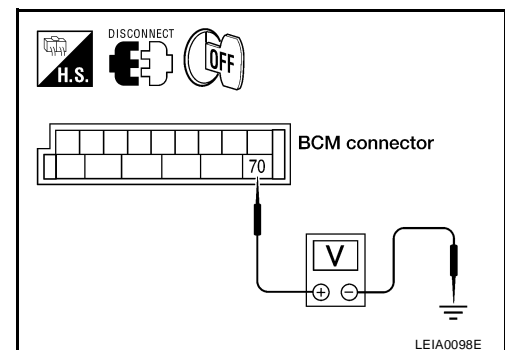
2. CHECK POWER SUPPLY CIRCUIT (BAT)

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

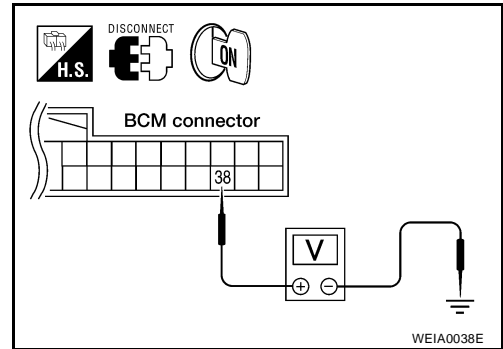
3. CHECK POWER SUPPLY CIRCUIT (IGN)

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

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

OK or NG

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



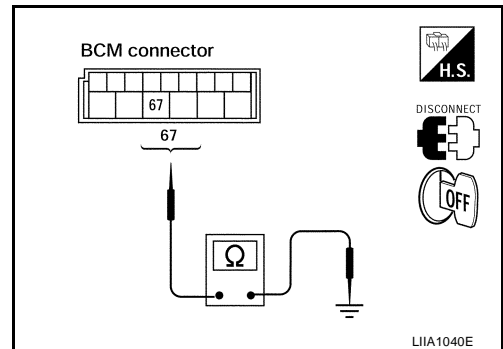
4. CHECK GROUND CIRCUIT

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

Terminals		Continuity
Connector	Terminal	
M20	67	Ground Yes

OK or NG

- OK >> Reconnect BCM and perform combination meter check [DI-14, "HOW TO INITIATE COMBINATION METER SELF-DIAGNOSIS MODE"](#) . If 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.

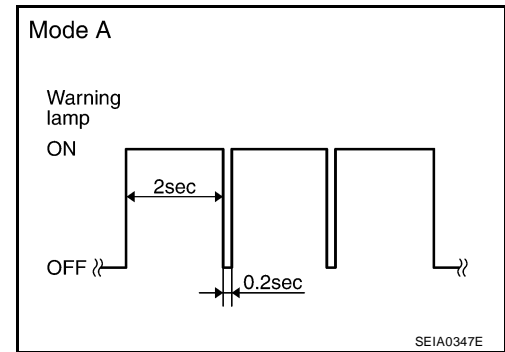
EE500223

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-16, "Transmitter Wake Up Operation"](#).



DIAGNOSTIC PROCEDURE

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect BCM harness connectors M18, M19 and M20.
3. Check terminals for damage or loose connections.

Inspection results OK?

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

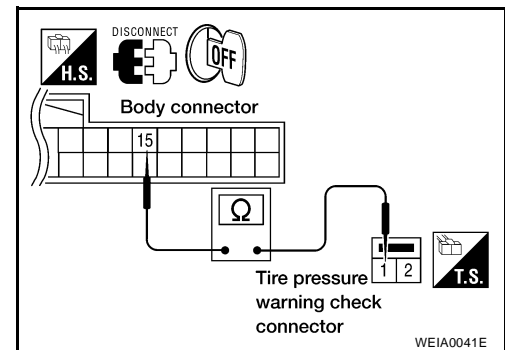
2. CHECK TIRE PRESSURE WARNING CHECK CONNECTOR CIRCUIT

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-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.

EES00224

DIAGNOSTIC PROCEDURE

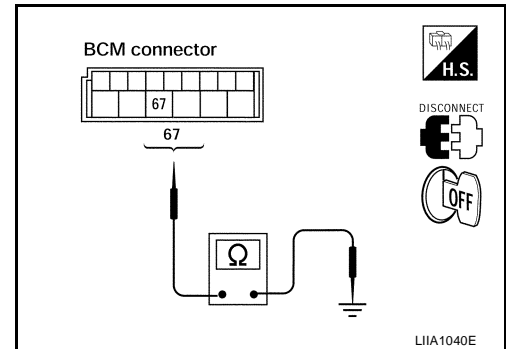
1. CHECK GROUND CIRCUIT

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	Ground
M19	67	
		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.

EES00225

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-44, "TROUBLE DIAGNOSIS"](#) .
- NO >> GO TO 2.

2. CHECK DISPLAY UNIT

Perform display unit self-diagnosis. Refer to [AV-136, "Self-Diagnosis Mode"](#) without NAVI or [AV-191, "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

EES00226

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-23, "Inspection 1: Transmitter or BCM"](#) .

REMOVAL AND INSTALLATION

REMOVAL AND INSTALLATION

PFP:00000

Transmitter (Pressure Sensor)

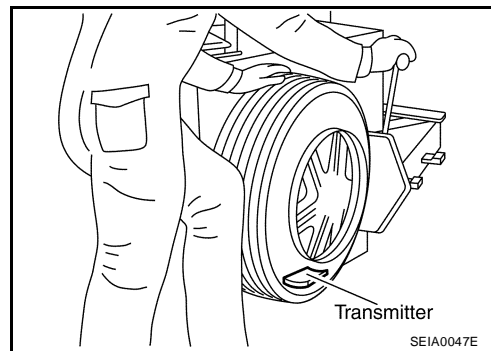
EES00227

CAUTION:

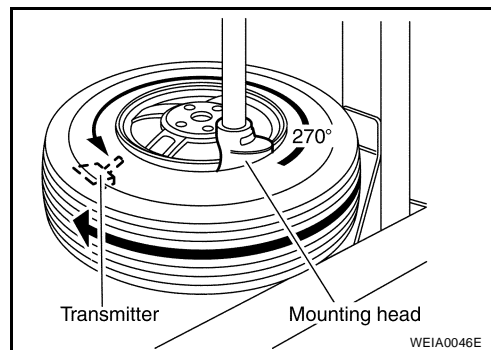
- Servicing PAX run flat tires and wheels requires special tire equipment and training. DO NOT service PAX Run Flat tires and wheels with conventional tire servicing equipment or damage to the tire and wheel will result.
- If a PAX run flat tire and wheel [or transmitter (pressure sensor)] requires service, and the proper servicing equipment is not available, then replace the complete PAX tire and wheel assembly.

REMOVAL

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

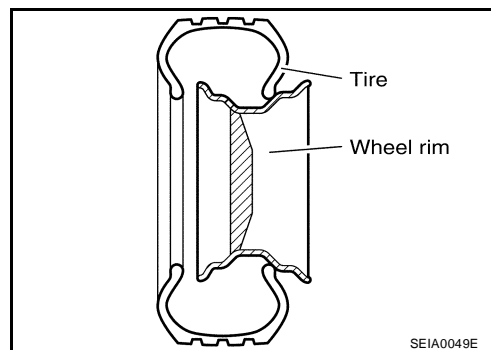


4. Turn tire so that valve hole is at bottom, and gently bounce the tire to ensure transmitter is near valve hole. Carefully lift tire onto turntable and position valve hole (and transmitter) 270 degrees from mounting/dismounting head.
5. Lubricate tire well, and remove top side of tire. Reach inside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



INSTALLATION

1. Place first side of tire onto rim.



2. Apply suitable silicone lubricant to new transmitter seal then install seal on transmitter. Refer to [MA-9, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

NOTE:

Always replace the seal after every disassembly.

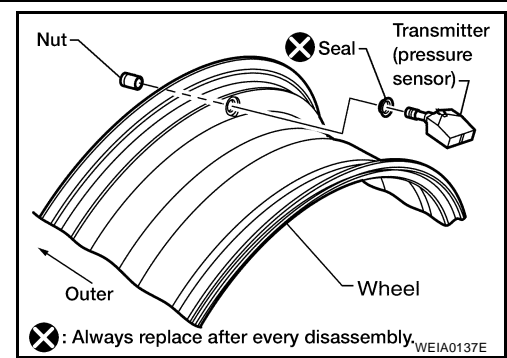
REMOVAL AND INSTALLATION

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 : 5.5 N·m (0.56 kg·m, 49 in·lb)

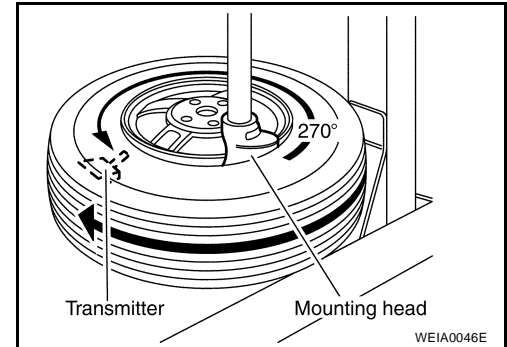


4. Place wheel on turntable of tire machine. Ensure that transmitter is 270 degrees from mounting/dismounting head.

NOTE:

Do not touch transmitter with mounting head.

5. Lubricate tire well, and install second side of tire as normal. Ensure that tire does not rotate relative to rim.
6. Inflate tire and balance the wheel and tire assembly. Refer to [WT-7, "BALANCING WHEELS"](#).
7. Install wheel and tire assembly in appropriate wheel position on vehicle. Refer to [WT-8, "ROTATION"](#).



NOTE:

If replacing the transmitter, then transmitter wake up operation must be performed. Refer to [WT-16, "Transmitter Wake Up Operation"](#).

8. Adjust neutral position of steering angle sensor, if equipped. Refer to [BRC-93, "Adjustment of Steering Angle Sensor Neutral Position"](#).

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

PF0:00030

Road Wheel

EES0022G

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

EES0022H

Unit: kPa (kg/cm², psi)

Tire size	Air pressure	
	Conventional tire	Spare tire
T135/80*16	—	420 (4.2, 60)
P225/65R16	240 (2.4, 35)	—
P225/60R17	240 (2.4, 35)	—
225-700R480A	240 (2.4, 35)	—
Speed Rating	H	—

*: D or R depending on manufacturer.

SERVICE DATA AND SPECIFICATIONS (SDS)
