SECTION WT
ROAD WHEELS & TIRES

CONTENTS

PRECAUTIONS 3
Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER” 3
Precautions 3
Service Notice 4
PREPARATION 5
Special Service Tools 5
Commercial Service Tools 5
NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING 6
NVH Troubleshooting Chart 6
LOW TIRE PRESSURE WARNING SYSTEM 7
System Description 7
DESCRIPTION 7
FUNCTION 7
TRANSMITTER 7
ANTENNA 7
LOW TIRE PRESSURE WARNING CONTROL UNIT 7
LOW TIRE PRESSURE WARNING LAMP AND BUZZER 8
TIRE PRESSURE WARNING CHECK SWITCH 8
VEHICLE INFORMATION DISPLAY 8
System Diagram 9
COMPONENTS FUNCTION DESCRIPTION 9
TROUBLE DIAGNOSIS 10
How to Perform Trouble Diagnosis 10
BASIC CONCEPT 10
INTRODUCTION 10
WORK FLOW 11
Component Parts Location 12
Circuit Diagram 13
Wiring Diagram — T/WARN — 14
Low Tire Pressure Warning Control Unit Input/Output Signal Reference Values 17
LOW TIRE PRESSURE WARNING CONTROL UNIT INSPECTION TABLE 17
CONSULT-II Function (AIR PRESSURE MONITOR) 19
FUNCTION 19
CONSULT-II SETTING PROCEDURE 19
WORK SUPPORT MODE 19
SELF-DIAG RESULT MODE 19
DATA MONITOR MODE 21
LOW TIRE PRESSURE WARNING CONTROL UNIT PART NUMBER MODE 21
Self-Diagnostic Procedure 21
SELF-DIAGNOSTIC PROCEDURE (WITH CONSULT-II) 21
SELF-DIAGNOSTIC PROCEDURE (WITHOUT CONSULT-II) 21
ERASE SELF-DIAGNOSIS 23
ID Registration Procedure 24
ID REGISTRATION WITH TRANSMITTER ACTIVATION TOOL 24
ID REGISTRATION WITHOUT TRANSMITTER ACTIVATION TOOL 24
Transmitter Wake Up Operation 25
WITH ACTIVATION TOOL 25
Inspections Before Trouble Diagnosis 26
DIAGNOSTIC PROCEDURE 26
Trouble Diagnosis Chart for Symptoms 26
Low Tire Pressure Warning Lamp Symptom Chart 27
TROUBLE DIAGNOSIS FOR SYSTEM 29
Power Supply Circuit 29
LOW TIRE PRESSURE WARNING CONTROL UNIT TERMINALS AND REFERENCE VALUE 29
DIAGNOSTIC PROCEDURE 29
Transmitter (NO DATA) 31
CONSULT-II REFERENCE VALUE IN DATA MONITOR MODE 31
DIAGNOSTIC PROCEDURE 31
Transmitter (CHECKSUM ERR, CODE ERR, BATT VOLT LOW) 33
CONSULT-II REFERENCE VALUE IN DATA MONITOR MODE 33
DIAGNOSTIC PROCEDURE 33
Transmitter (PRESSDATA ERR) 35
CONSULT-II REFERENCE VALUE IN DATA

MONITOR MODE 35
DIAGNOSTIC PROCEDURE 35
Vehicle Speed Signal 36
CONSULT-II REFERENCE VALUE IN DATA MONITOR MODE 36
LOW TIRE PRESSURE WARNING CONTROL UNIT TERMINALS AND REFERENCE VALUE... 36
DIAGNOSTIC PROCEDURE 37
Component Inspection 39
COMBINATION FLASHER UNIT 39
TROUBLE DIAGNOSIS FOR SYMPTOMS 40
Low Tire Pressure Warning Lamp Does Not Turn ON for Approx.1 Second When Ignition Switch Is Turned ON 40
DIAGNOSTIC PROCEDURE 40
Low Tire Pressure Warning Lamp Stays ON When Ignition Switch Is Turned ON 42
DIAGNOSTIC PROCEDURE 42
Low Tire Pressure Warning Lamp Blinks When Ignition Switch Is Turned ON 44
SYMPTOM: 44
DIAGNOSTIC PROCEDURE 44
Hazard Warning Lamp Blinks When Ignition Switch Is Turned ON 45
DIAGNOSTIC PROCEDURE 45
“TIRE PRESSURE” Information In Display Does Not Exist 46
DIAGNOSTIC PROCEDURE 46
ID Registration Cannot Be Completed 48
DIAGNOSTIC PROCEDURE 48
CONTROL UNIT 49
Removal and Installation 49
REMOVAL 49
INSTALLATION 49
COMBINATION FLASHER UNIT 50
Removal and Installation 50
REMOVAL 50
INSTALLATION 50
TRANSMITTER 51
Removal and Installation 51
REMOVAL 51
INSTALLATION 51
ROAD WHEEL 53
Inspection 53
ALUMINUM WHEEL 53
STEEL WHEEL (FOR EMERGENCY USE) 53
ROAD WHEEL TIRE ASSEMBLY 54
Balancing Wheels (Bonding Weight Type) 54
REMOVAL 54
WHEEL BALANCE ADJUSTMENT 54
Tire Rotation 55
SERVICE DATA AND SPECIFICATIONS (SDS) 56
Road Wheel 56
Tire 56
Tightening Torque 56

PRECAUTIONS

PFP:00001

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

NES000CS

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.

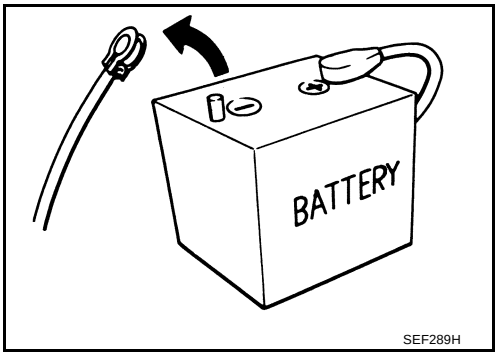
WARNING:

- **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.**

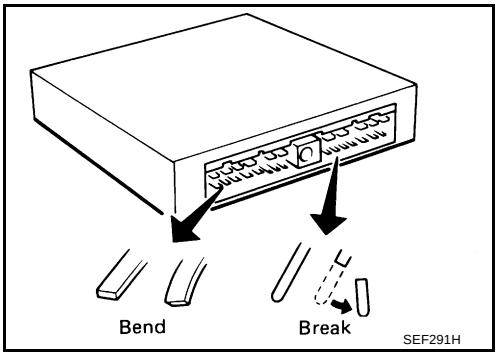
Precautions

NES000CU

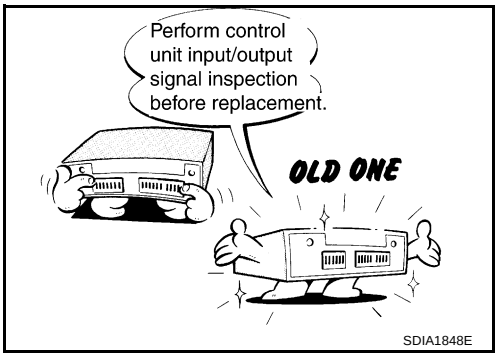
- **Before connecting or disconnecting the low tire pressure warning control unit harness connector, turn ignition switch “OFF” and disconnect the battery cable from the negative terminal. Battery voltage is applied to low tire pressure warning control unit even if ignition switch is turned “OFF”.**



- **When connecting or disconnecting pin connectors into or from low tire pressure warning control unit, take care not to damage pin terminals (bend or break).**
  When connecting pin connectors make sure that there are not any bends or breaks on low tire pressure warning control unit pin terminals.



- **Before replacing low tire pressure warning control unit, perform low tire pressure warning control unit input/output signal inspection and make sure whether low tire pressure warning control unit functions properly or not. Refer to WT-17, "Low Tire Pressure Warning Control Unit Input/Output Signal Reference Values" .**



Service Notice

NES000CV

- ID registration is required when replacing or rotating wheels, replacing transmitter or low tire pressure warning control unit. Refer to WT-24, "ID Registration Procedure" .

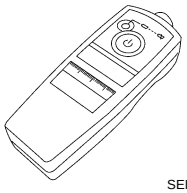
PREPARATION

PFP:00002

Special Service Tools

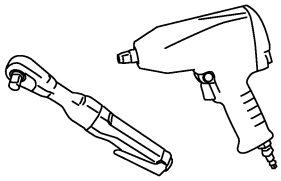
NES000CW

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
— (J-45295) Transmitter activation tool  SEIA0462E	ID registration

Commercial Service Tools

NES000CX

Tool name	Description
Power tool  PBIC0190E	Removing wheel nuts

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:00003

NVH Troubleshooting Chart

NES00070

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

Reference page			FAX-4, FSU-7	WT-53	WT-54	WT-56	WT-55	—	—	WT-56	NVH in PR section	NVH in RFD section	NVH in FAX and FSU sections	NVH in RAX and RSU sections	Refer to TIRES in this chart	Refer to ROAD WHEEL in this chart	NVH in RAX section	NVH in BR section	NVH in PS section
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	PROPELLER SHAFT	DIFFERENTIAL	FRONT AXLE AND FRONT SUSPENSION	REAR AXLE AND REAR SUSPENSION	TIRES	ROAD WHEEL	DRIVE SHAFT	BRAKE	STEERING
Symptom	TIRES	Noise	×	×	×	×	×	×	×		×	×	×	×		×	×	×	×
		Shake	×	×	×	×	×	×		×	×		×	×		×	×	×	×
		Vibration				×				×	×		×	×			×		×
		Shimmy	×	×	×	×	×	×	×	×			×	×		×		×	×
		Judder	×	×	×	×	×	×		×			×	×		×		×	×
		Poor quality ride or handling	×	×	×	×	×	×		×			×	×		×			
	ROAD WHEEL	Noise	×	×	×			×			×	×	×	×	×		×	×	×
		Shake	×	×	×			×			×		×	×	×		×	×	×
		Shimmy, judder	×	×	×			×					×	×	×			×	×
		Poor quality ride or handling	×	×	×			×					×	×	×				

×: Applicable

LOW TIRE PRESSURE WARNING SYSTEM

PFP:40300

System Description

NES00075

DESCRIPTION

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

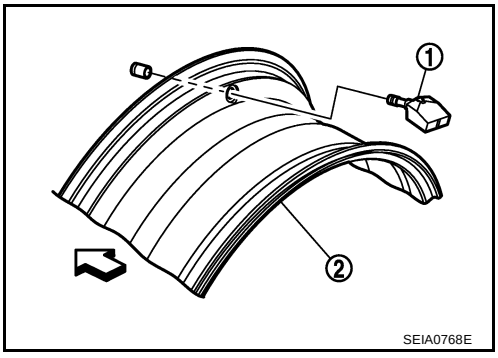
FUNCTION

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

TRANSMITTER

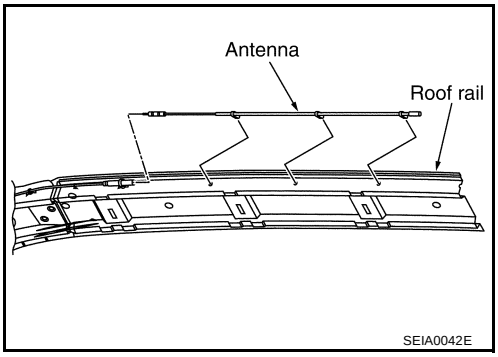
A sensor-transmitter (1) integrated with a valve is installed on a wheel (2), and transmits a detected air pressure signal in the form of a radio wave.

⇦: Outer



ANTENNA

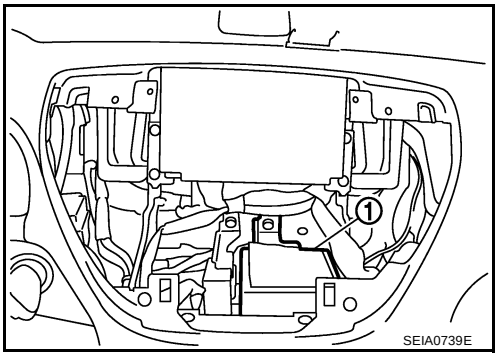
Receives the radio wave signal transmitted by the transmitter.



LOW TIRE PRESSURE WARNING CONTROL UNIT

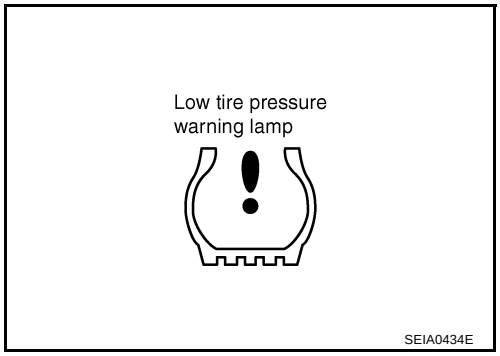
Reads the radio wave signal received by the antenna, and controls the low tire pressure warning lamp and the buzzer operations. It also has a judgement function to detect a system malfunction.

1: Low tire pressure warning control unit



LOW TIRE PRESSURE WARNING LAMP AND BUZZER

- Turns ON when there is a malfunction in low tire pressure warning system.
- Turns ON when ignition switch is turned ON, for purpose of lamp check. Turns OFF approximately for 1 second after the engine starts if system is normal.



Low Tire Pressure Warning Lamp

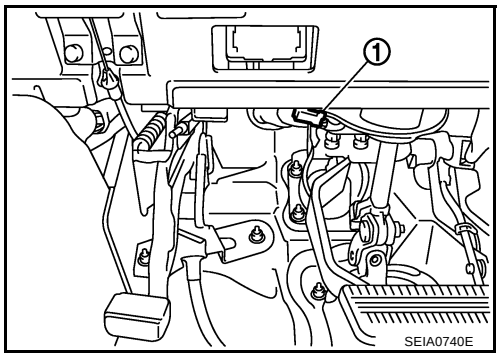
Condition	Warning lamp	Buzzer
Less than 186 kPa (1.86 kg/cm^2 , 27 psi)*	ON	Sounds for 10 sec.
System malfunction	ON	OFF

*: Standard air pressure is for 230 kPa (2.3 kg/cm^2 , 33 psi) vehicle.

TIRE PRESSURE WARNING CHECK SWITCH

The following item can be checked by grounding the tire pressure warning check switch (1) harness connector terminal.

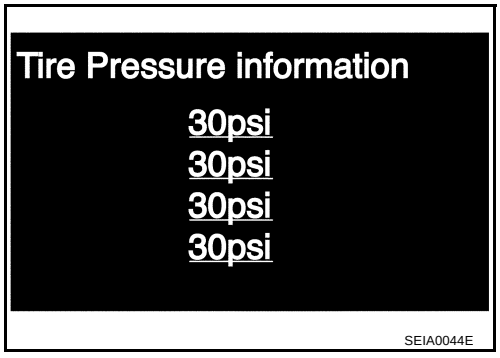
- The low tire pressure warning lamp in the combination meter will flicker according to the self-diagnostic results.



VEHICLE INFORMATION DISPLAY

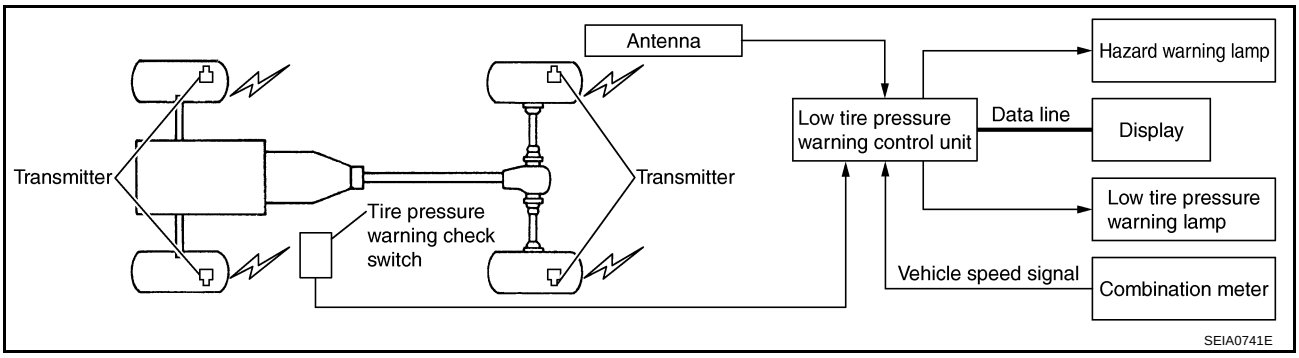
Displays the air pressure of each tire.

- After the ignition switch is turned ON, the pressure values are not be displayed until the data of all four wheels stabilizes.



System Diagram

NES000CY



COMPONENTS FUNCTION DESCRIPTION

Component parts	Function
Low tire pressure warning control unit	Monitors tire pressure and controls the low tire pressure warning lamp and turn signal lamp.
Transmitter	Converts tire pressure signals to radio signals.
Antenna	Receives radio signals converted from tire pressure signals.
Display	Displays the air pressure of each tire.
Tire pressure warning check switch	Allows a mode to be switched to a diagnosis mode.
Hazard warning lamp	ID registration of each wheel has been completed, turn signal lamp flashes two times.
Combination meter	Transmitters the vehicle speed signal to low tire pressure warning control unit.
Low tire pressure warning lamp	Illuminates if malfunction is detected in electrical system of low tire pressure warning system.

TROUBLE DIAGNOSIS

PFP:00004

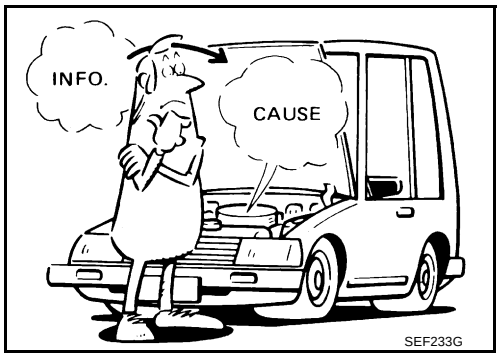
How to Perform Trouble Diagnosis

NES000CZ

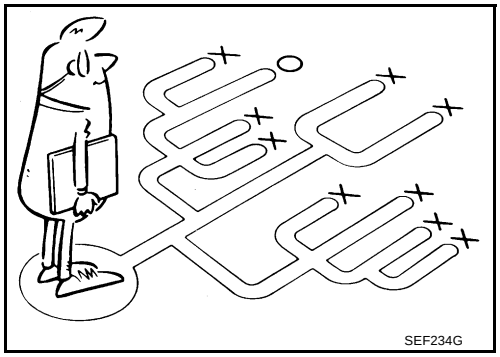
BASIC CONCEPT

- To perform trouble diagnosis, it is the most important to have understanding about vehicle systems (control and mechanism) thoroughly.
- It is also important to clarify customer complaints before inspection.
  First of all, reproduce symptoms, and understand them fully.
  Ask customer about his/her complaints carefully. In some cases, it will be necessary to check symptoms by driving vehicle with customer.

  CAUTION:
  Customers are not professional. It is dangerous to make an easy guess like “maybe the customer means that...,” or “maybe the customer mentions this symptom”.



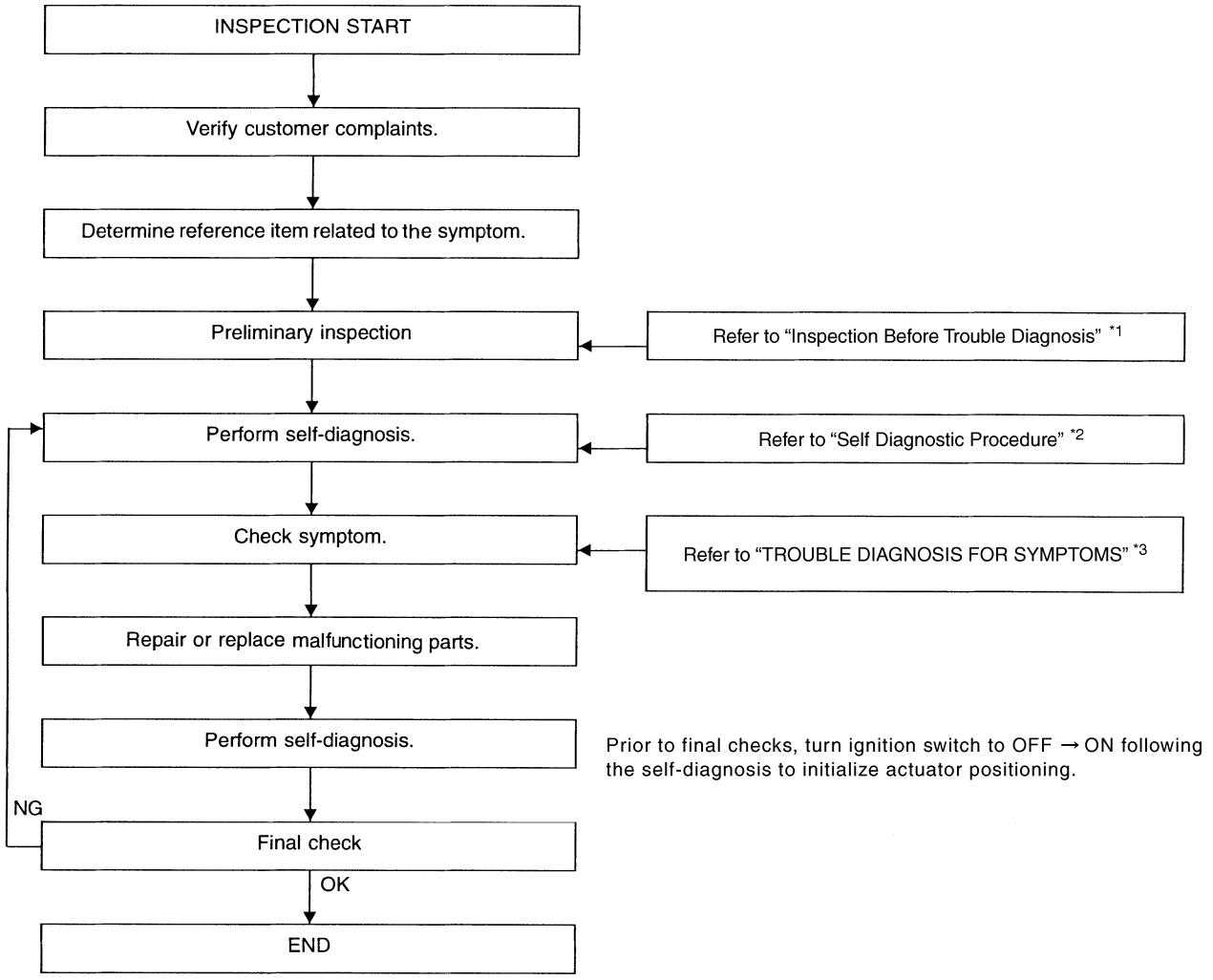
- It is essential to check symptoms right from the beginning in order to repair malfunctions completely.
  For intermittent malfunctions, reproduce symptoms based on interview with customer and past examples. Do not perform inspection on ad hoc basis. Most intermittent malfunctions are caused by poor contacts. In this case, it will be effective to shake suspected harness or connector by hand. When repairing without any symptom diagnosis, you cannot judge if malfunctions have actually been eliminated.
- After completing diagnosis, always erase diagnostic memory. Refer to WT-23, "ERASE SELF-DIAGNOSIS" .
- For intermittent malfunctions, move harness or harness connector by hand. Then check for poor contact or reproduced open circuit.



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



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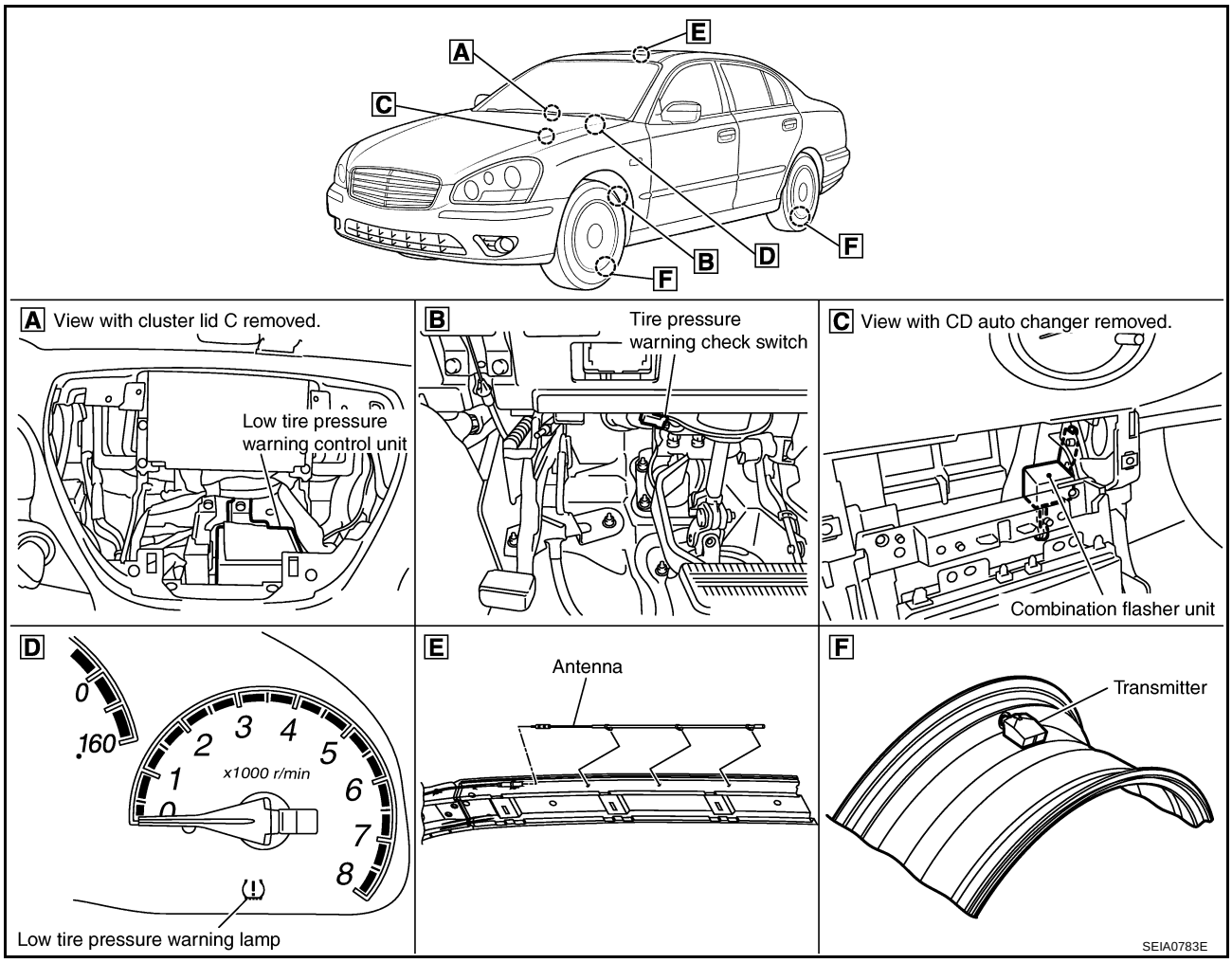
*1: WT-26 *2: WT-21 *3: WT-40

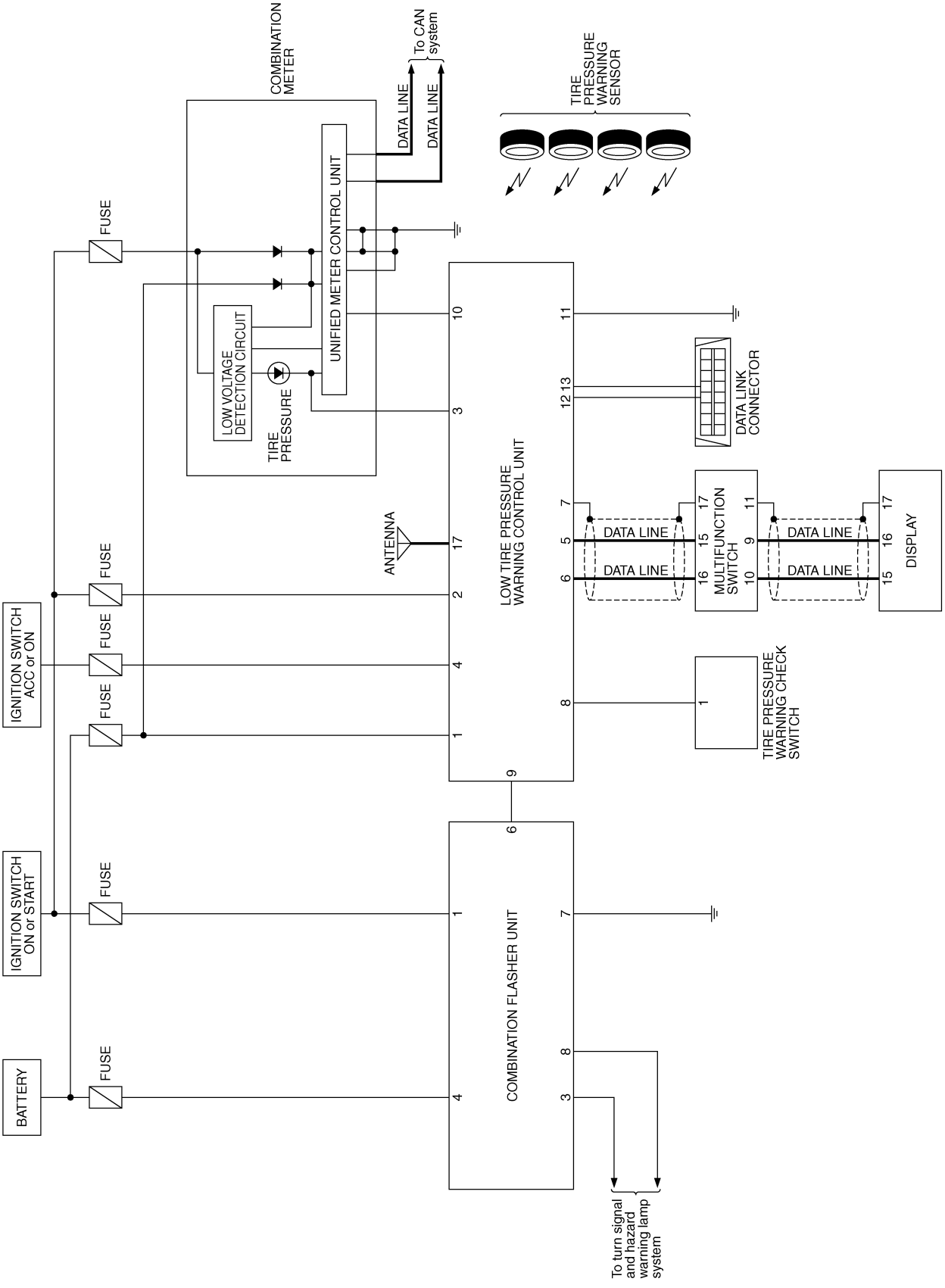
Component Parts Location

NES000D1



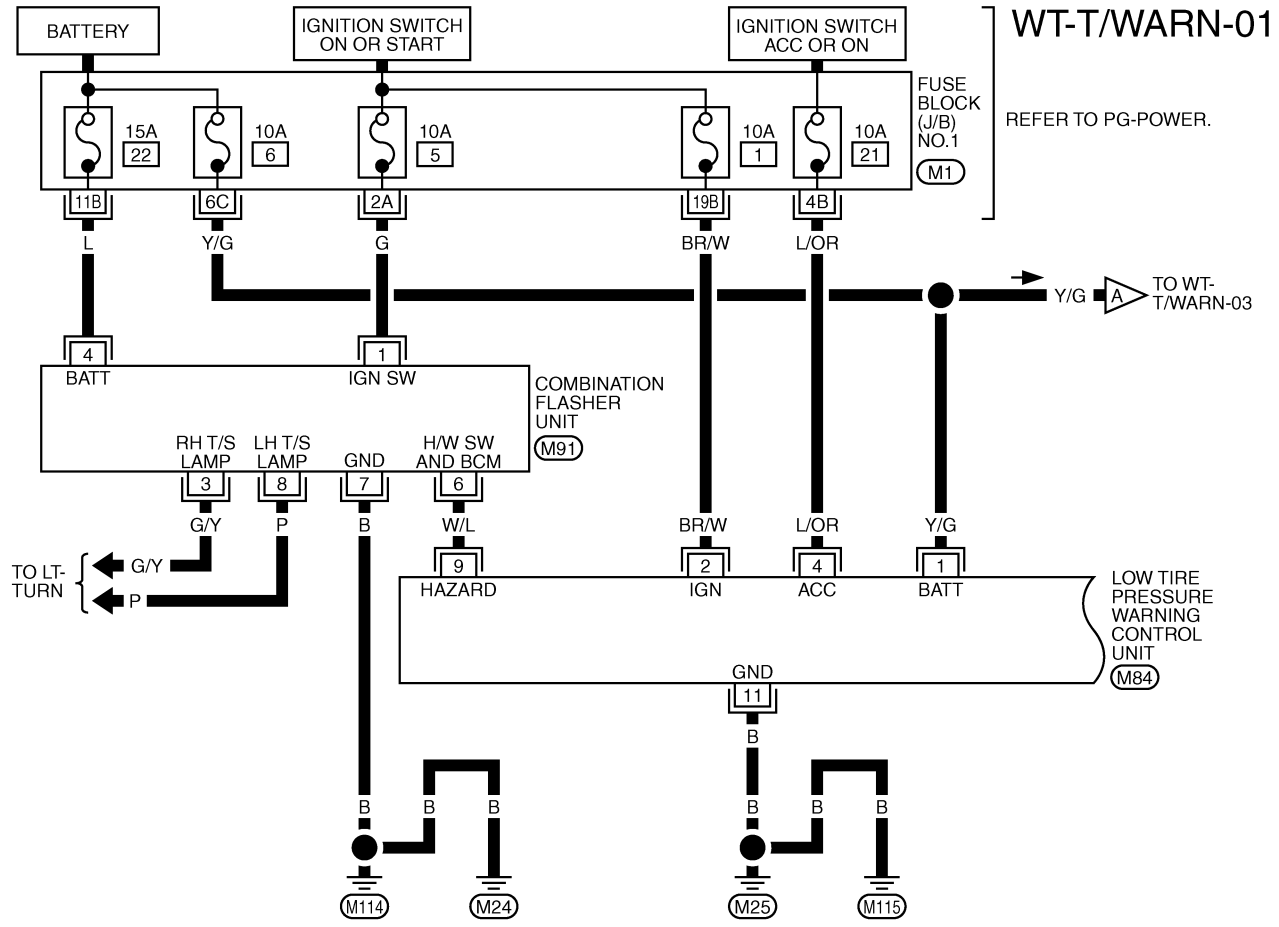
Circuit Diagram

NES000D2



Wiring Diagram — T/WARN —

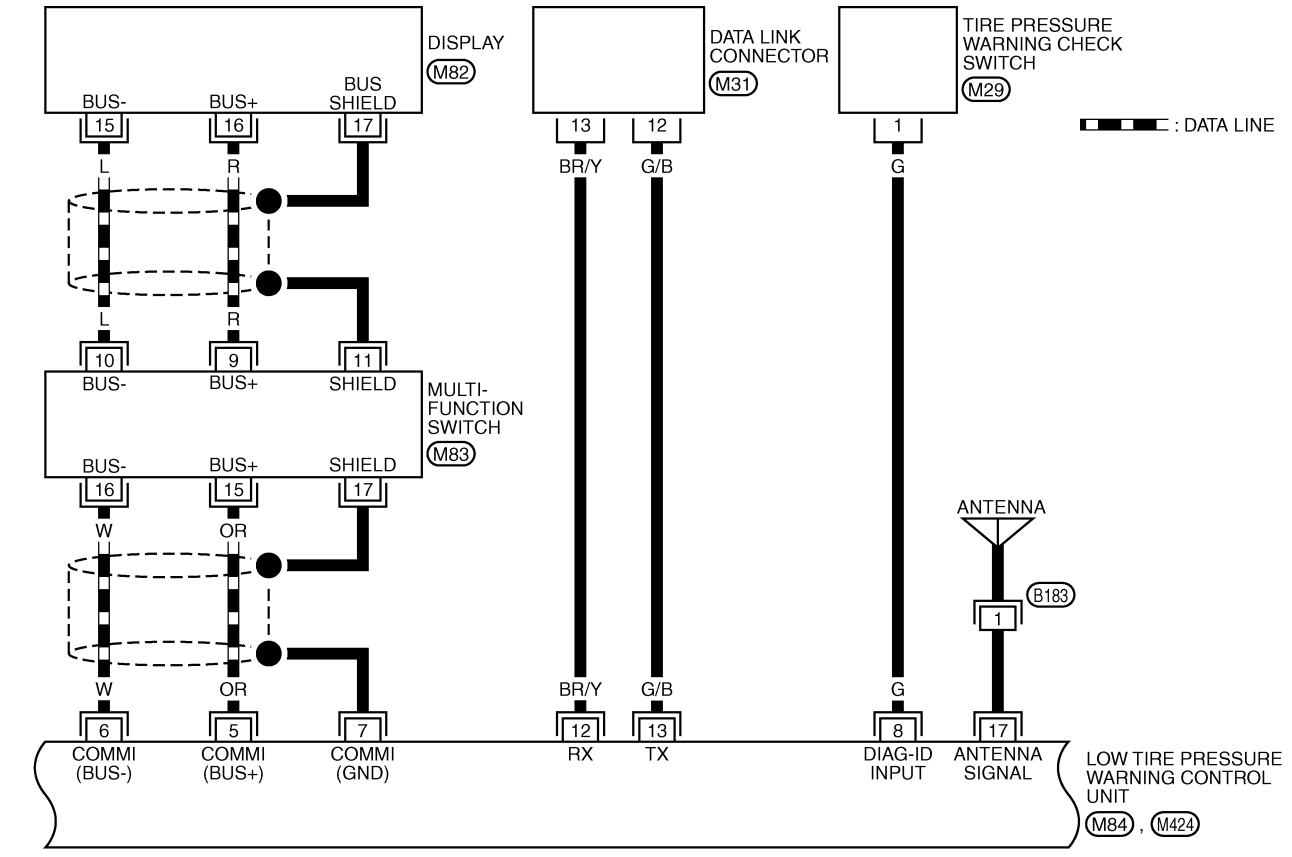
NES00076

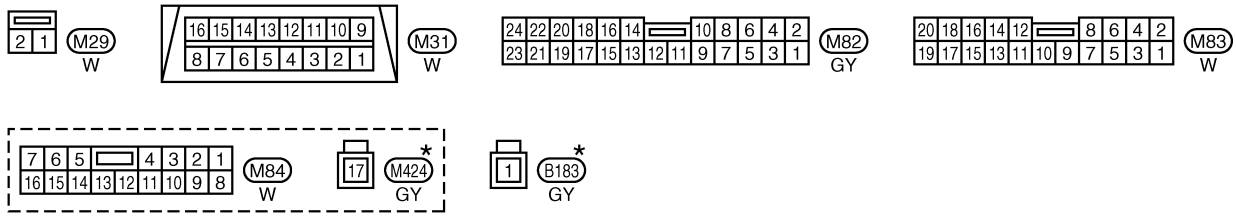


REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TEWM0080E

WT-T/WARN-02

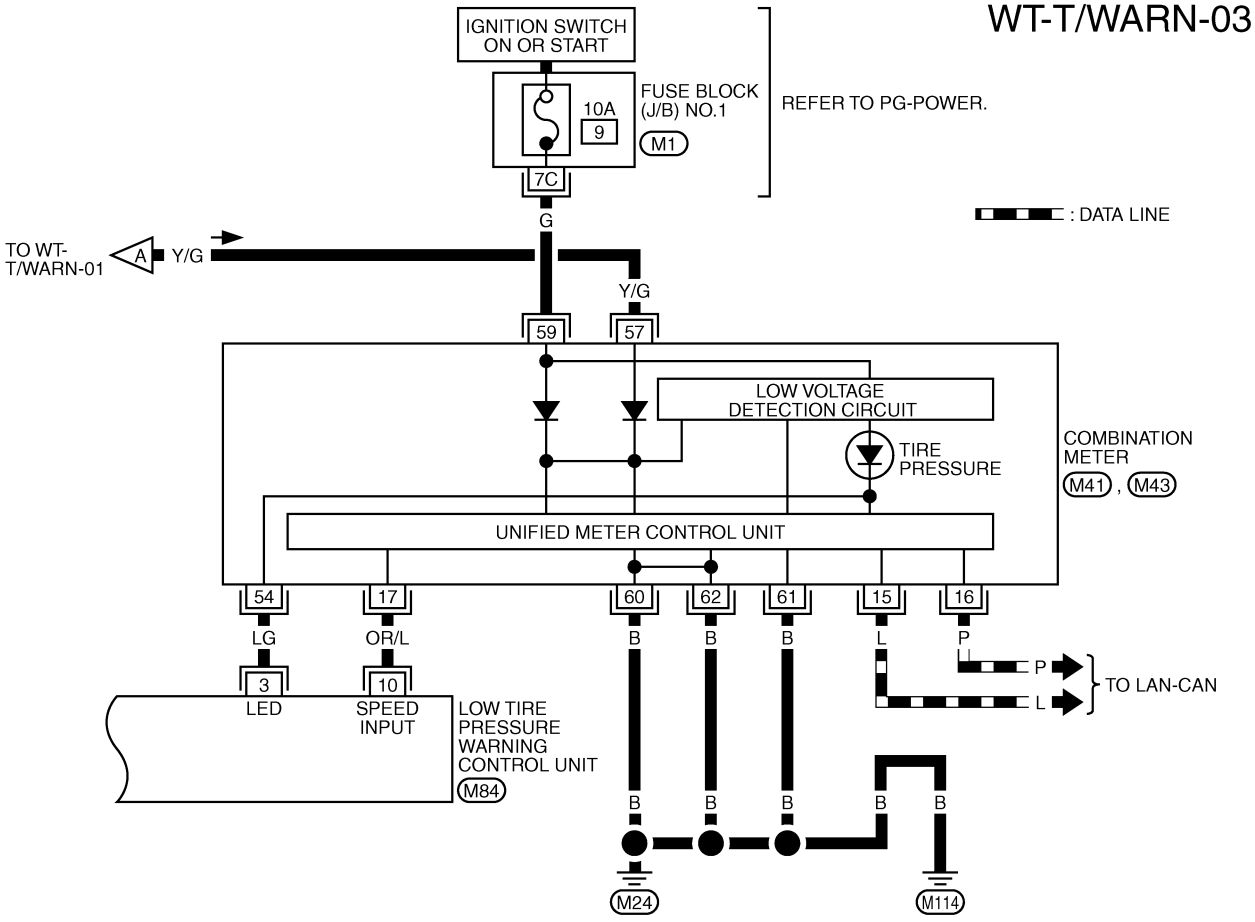


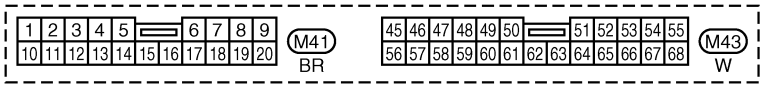


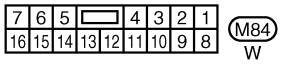
★: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TEWM0125E

WT-T/WARN-03







REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TEWM0082E

Low Tire Pressure Warning Control Unit Input/Output Signal Reference Values

NES000D4

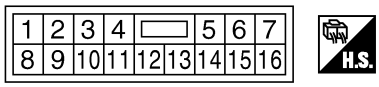
LOW TIRE PRESSURE WARNING CONTROL UNIT INSPECTION TABLE

Specifications with CONSULT-II

Monitor item [Unit]	Content	Condition	Display value
VHCL SPEED SE [km/h] or [mph]	Wheel speed	Vehicle stopped	0 km/h (0 MPH)
		Vehicle running **CAUTION:** **Check air pressure of tire under standard condition.**	Approximately equal to the indication on speedometer (Inside of ±10%)
AIR PRESS FL [kPa], [kg/cm^2] or [psi]	Condition of front LH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS FR [kPa], [kg/cm^2] or [psi]	Condition of front RH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS RR [kPa], [kg/cm^2] or [psi]	Condition of rear RH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS RL [kPa], [kg/cm^2] or [psi]	Condition of rear LH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
ID REGST FL [DONE/YET]	Condition of front LH ID registration	Transmitter ID registered	DONE
		Transmitter ID unregistered	YET
ID REGST FR [DONE /YET]	Condition of front RH ID registration	Transmitter ID registered	DONE
		Transmitter ID unregistered	YET
ID REGST RR [DONE/YET]	Condition of rear RH ID registration	Transmitter ID registered	DONE
		Transmitter ID unregistered	YET
ID REGST RL [DONE/YET]	Condition of rear LH ID registration	Transmitter ID registered	DONE
		Transmitter ID unregistered	YET
WARNING LAMP [ON/OFF]	Low tire pressure warning lamp condition	Low tire pressure warning lamp: ON	ON
		Low tire pressure warning lamp: OFF	OFF
BUZZER [ON/OFF]	Condition of sound	Sound heard	ON
		Sound not heard	OFF

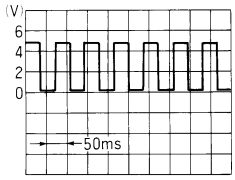
Specifications Between Low Tire Pressure Warning Control Unit Terminals

LOW TIRE PRESSURE WARNING CONTROL UNIT CONNECTOR LAYOUT



SEIA0743E

Data are reference value and are measured between each terminal and ground.

Terminal	Wire color	Item	Condition	Data (Approx.)
1	Y/G	Power supply (Memory back-up)	Ignition switch: ON	Battery voltage
			Ignition switch: OFF	Battery voltage
2	BR/W	Power supply	Ignition switch: ON	Battery voltage
			Ignition switch: OFF	0 V
3	LG	Low tire pressure warning lamp	Low tire pressure warning lamp: ON	5 - 8 V
			Low tire pressure warning lamp: OFF	0 V
4	L/OR	Power supply (ACC)	Ignition switch: ACC	Battery voltage
			Ignition switch: OFF	0 V
5	OR	Display data line (+)	Ignition switch: ON	0 - 5 V (alternately repeated)
6	W	Display data line (-)	Ignition switch: ON	0 - 5 V (alternately repeated)
7	—	Display ground	—	—
8	G	Tire pressure warning check switch	Ignition switch: ON	5 V
			Ignition switch: OFF	5 V
9	W/L	Hazard warning lamp switch	Ignition switch: ON	Battery voltage
			Ignition switch: OFF	Battery voltage
10	OR/L	Vehicle speed	Vehicle speed: 40 km/h (25 MPH)	 ELF1080D
11	B	Ground	Always	0 V
12	BR/Y	Data link connector (RX)	—	—
13	G/B	Data link connector (TX)	—	—
17	—	Antenna	—	—

CAUTION:

When using circuit tester or oscilloscope to measure voltage for inspection, be sure not to extend forcibly any connector terminals.

CONSULT-II Function (AIR PRESSURE MONITOR)

NES000D5

FUNCTION

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

Diagnostic test mode	Function	Reference page
Work support	● This mode enables a technician to adjust some devices faster and more accurately by following the indications on CONSULT-II.	WT-19
Self-diagnostic results	● Self-diagnostic results can be read and erased quickly.	WT-19
Data monitor	● Input/Output data in the low tire pressure warning control unit can be read.	WT-21
ECU part number	● Low tire pressure warning control unit part number can be read.	WT-21

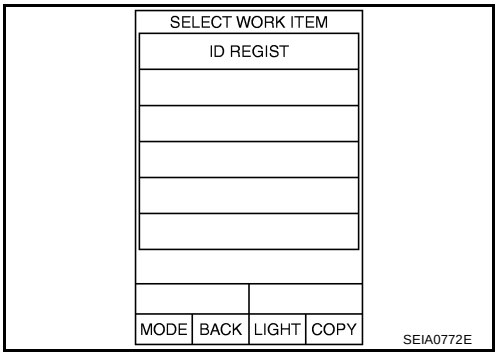
CONSULT-II SETTING PROCEDURE

Refer to GI-36, "CONSULT-II Start Procedure" .

WORK SUPPORT MODE

Operation Procedure

1. Perform “CONSULT-II Start Procedure”. Refer to GI-36, "CONSULT-II Start Procedure" .
2. Touch “WORK SUPPORT”.
3. Select from “SELECT WORK ITEM”, screen of work support mode is displayed.



ID Regist

Refer to WT-24, "ID Registration Procedure" .

SELF-DIAG RESULT MODE

Operation Procedure

1. Perform “CONSULT-II Start Procedure”. Refer to GI-36, "CONSULT-II Start Procedure" .
2. With engine at idle, touch “SELF-DIAG RESULTS”.
   Display shows malfunction experienced since the last erasing operation.

NOTE:

The details for “TIME” are as follows:

- “0”: Error currently detected with low tire pressure warning control unit.
- Except for “0”: Error detected in the past and memorized with low tire pressure warning control unit. Detects frequency of driving after DTC occurs (frequency of turning ignition switch “ON/OFF”).

Display Item List

Items (CONSULT-II screen terms)	Diagnostic item is detected when...	Check item
FLAT TIRE FL	Front LH tire pressure drops to 186 kPa (1.86 kg/cm^2 , 27 psi) or less	WT-26, "Inspections Before Trouble Diagnosis"
FLAT TIRE FR	Front RH tire pressure drops to 186 kPa (1.86 kg/cm^2 , 27 psi) or less	
FLAT TIRE RR	Rear RH tire pressure drops to 186 kPa (1.86 kg/cm^2 , 27 psi) or less	
FLAT TIRE RL	Rear LH tire pressure drops to 186 kPa (1.86 kg/cm^2 , 27 psi) or less	
[NO DATA] FL	Data from front LH transmitter cannot be received.	WT-31, "Transmitter (NO DATA)"
[NO DATA] FR	Data from front RH transmitter cannot be received.	
[NO DATA] RR	Data from rear RH transmitter cannot be received.	
[NO DATA] RL	Data from rear LH transmitter cannot be received.	
[CHECKSUM ERR] FL	Checksum data from front LH transmitter is malfunctioning.	WT-33, "Transmitter (CHECKSUM ERR, CODE ERR, BATT VOLT LOW)"
[CHECKSUM ERR] FR	Checksum data from front RH transmitter is malfunctioning.	
[CHECKSUM ERR] RR	Checksum data from rear RH transmitter is malfunctioning.	
[CHECKSUM ERR] RL	Checksum data from rear LH transmitter is malfunctioning.	
[PRESSDATA ERR] FL	Air pressure data from front LH transmitter is malfunction.	WT-35, "Transmitter (PRESSDATA ERR)"
[PRESSDATA ERR] FR	Air pressure data from front RH transmitter is malfunction.	
[PRESSDATA ERR] RR	Air pressure data from rear RH transmitter is malfunction.	
[PRESSDATA ERR] RL	Air pressure data from rear LH transmitter is malfunction.	
[CODE ERR] FL	Function code data from front LH transmitter is malfunctioning.	WT-33, "Transmitter (CHECKSUM ERR, CODE ERR, BATT VOLT LOW)"
[CODE ERR] FR	Function code data from front RH transmitter is malfunctioning.	
[CODE ERR] RR	Function code data from rear RH transmitter is malfunctioning.	
[CODE ERR] RL	Function code data from rear LH transmitter is malfunctioning.	
[BATT VOLT LOW] FL	Battery voltage of front LH transmitter drops.	WT-33, "Transmitter (CHECKSUM ERR, CODE ERR, BATT VOLT LOW)"
[BATT VOLT LOW] FR	Battery voltage of front RH transmitter drops.	
[BATT VOLT LOW] RR	Battery voltage of rear RH transmitter drops.	
[BATT VOLT LOW] RL	Battery voltage of rear LH transmitter drops.	
RECEIVER ID NO REG	No ID registration has been made to the low tire pressure warning control unit.	WT-48, "ID Registration Cannot Be Completed"

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.

How to Erase Self-diagnostic Results

1. Perform applicable inspection of malfunctioning item and then repair or replace.
2. Turn ignition switch “ON” and select “SELF-DIAG RESULTS” mode for “AIR PRESSURE MONITOR” with CONSULT-II.
3. Touch “ERASE” on CONSULT-II screen to erase DTC memory.

   CAUTION:
   If memory cannot be erased, perform applicable diagnosis.

DATA MONITOR MODE

Operation Procedure

1. Perform “CONSULT-II Start Procedure”. Refer to GI-36, "CONSULT-II Start Procedure" .
2. Touch “DATA MONITOR”.
3. Select from “SELECT MONITOR ITEM”, screen of data monitor mode is displayed.

NOTE:
When malfunction is detected, CONSULT-II performs REAL-TIME DIAGNOSIS.
Also, any malfunction detected while in this mode will be displayed in real time.

Display Item List

×: Standard –: Not applicable

Monitored item (Unit)	Monitor item selection		Remarks
	MAIN SIGNALS	SELECTION FROM MENU	
VHCL SPEED SE [km/h] or [mph]	×	×	Vehicle speed is displayed.
AIR PRESS FL [kpa] or [psi]	×	×	Senses the front LH tire pressure is displayed.
AIR PRESS FR [kPa] or [psi]	×	×	Senses the front RH tire pressure is displayed.
AIR PRESS RR [kpa] or [psi]	×	×	Senses the rear RH tire pressure is displayed.
AIR PRESS RL [kpa] or [psi]	×	×	Senses the rear LH tire pressure is displayed.
ID REGST FL [DONE/YET]	×	×	Registration status of front LH ID is displayed.
ID REGST FR [DONE/YET]	×	×	Registration status of front RH ID is displayed.
ID REGST RR [DONE/YET]	×	×	Registration status of rear RH ID is displayed.
ID REGST RL [DONE/YET]	×	×	Registration status of rear LH ID is displayed.
WARNING LAMP [ON/OFF]	×	×	Control status of low tire pressure warning lamp is displayed.
BUZZER [ON/OFF]	×	×	Control status of buzzer in low tire pressure warning lamp control unit is displayed.
Voltage [V]	–	×	The value measured by the voltage probe is displayed.
Frequency [Hz]	–	×	The value measured by the pulse probe is displayed.
DUTY-HI (high) [%]	–	×	
DUTY-LOW (low) [%]	–	×	
PLS WIDTH-HI [msec]	–	×	
PLS WIDTH-LOW [msec]	–	×	

LOW TIRE PRESSURE WARNING CONTROL UNIT PART NUMBER MODE

Ignore the low tire pressure warning control unit part number displayed in the “ECU PART NUMBER”.
Refer to parts catalog to order the low tire pressure warning control unit.

Self-Diagnostic Procedure

NES000D6

SELF-DIAGNOSTIC PROCEDURE (WITH CONSULT-II)

Refer to WT-19, "SELF-DIAG RESULT MODE" .

SELF-DIAGNOSTIC PROCEDURE (WITHOUT CONSULT-II)

Description

The low tire pressure warning lamp in the combination meter will flicker according to the self-diagnostic results. As for the details of the low tire pressure warning lamp flickering patterns, refer to WT-22, "Diagnostic Procedure" .

Diagnostic Procedure

1. Start the engine.
2. Perform the following procedures to enter the corresponding signals.

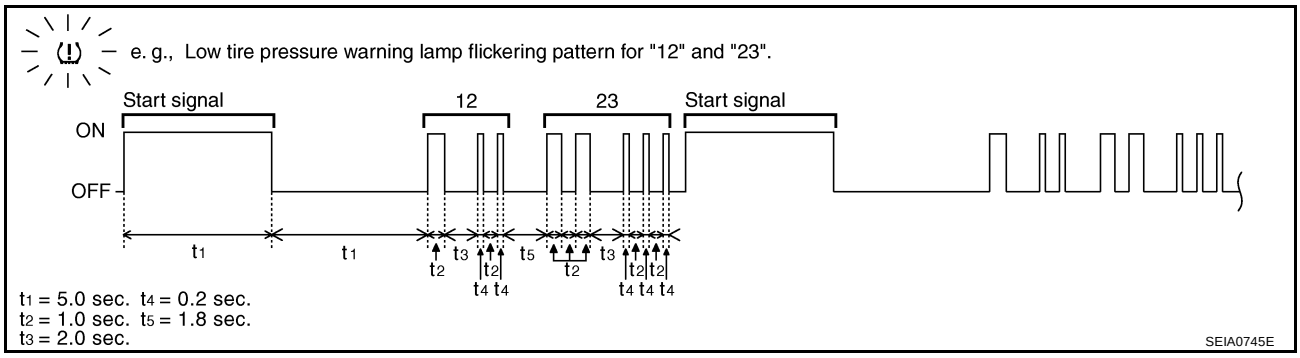
a. Ground the tire pressure warning check switch harness connector terminal 1 for more than 5 seconds.

b. Read the flickering of low tire pressure warning lamp. Refer to WT-22, "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.

Flickering pattern	Items	Diagnostic item is detected when...	Check item
15	Tire pressure value (front LH)	Front LH tire pressure drops to 186 kPa (1.86 kg/cm^2 , 27 psi) or less	WT-26, "Inspections Before Trouble Diagnosis"
16	Tire pressure value (front RH)	Front RH tire pressure drops to 186 kPa (1.86 kg/cm^2 , 27 psi) or less	
17	Tire pressure value (rear RH)	Rear RH tire pressure drops to 186 kPa (1.86 kg/cm^2 , 27 psi) or less	
18	Tire pressure value (rear LH)	Rear LH tire pressure drops to 186 kPa (1.86 kg/cm^2 , 27 psi) or less	
21	Transmitter no data (front LH)	Data from front LH transmitter cannot be received.	WT-31, "Transmitter (NO DATA)"
22	Transmitter no data (front RH)	Data from front RH transmitter cannot be received.	
23	Transmitter no data (rear RH)	Data from rear RH transmitter cannot be received.	
24	Transmitter no data (rear LH)	Data from rear LH transmitter cannot be received.	
31	Transmitter checksum error (front LH)	Checksum data from front LH transmitter is malfunctioning.	WT-33, "Transmitter (CHECKSUM ERR, CODE ERR, BATT VOLT LOW)"
32	Transmitter checksum error (front RH)	Checksum data from front RH transmitter is malfunctioning.	
33	Transmitter checksum error (rear RH)	Checksum data from rear RH transmitter is malfunctioning.	
34	Transmitter checksum error (rear LH)	Checksum data from rear LH transmitter is malfunctioning.	

Flickering pattern	Items	Diagnostic item is detected when...	Check item
35	Transmitter pressure data error (front LH)	Air pressure data from front LH transmitter is malfunction.	WT-35, "Transmitter (PRESSDATA ERR)"
36	Transmitter pressure data error (front RH)	Air pressure data from front RH transmitter is malfunction.	
37	Transmitter pressure data error (rear RH)	Air pressure data from rear RH transmitter is malfunction.	
38	Transmitter pressure data error (rear LH)	Air pressure data from rear LH transmitter is malfunction.	
41	Transmitter function code error (front LH)	Function code data from front LH transmitter is malfunctioning.	WT-33, "Transmitter (CHECKSUM ERR, CODE ERR, BATT VOLT LOW)"
42	Transmitter function code error (front RH)	Function code data from front RH transmitter is malfunctioning.	
43	Transmitter function code error (rear RH)	Function code data from rear RH transmitter is malfunctioning.	
44	Transmitter function code error (rear LH)	Function code data from rear LH transmitter is malfunctioning.	
45	Transmitter battery voltage low (front LH)	Battery voltage of front LH transmitter drops.	WT-33, "Transmitter (CHECKSUM ERR, CODE ERR, BATT VOLT LOW)"
46	Transmitter battery voltage low (front RH)	Battery voltage of front RH transmitter drops.	
47	Transmitter battery voltage low (rear RH)	Battery voltage of rear RH transmitter drops.	
48	Transmitter battery voltage low (rear LH)	Battery voltage of rear LH transmitter drops.	
51	Low tire pressure warning control unit	No ID registration has been made to the low tire pressure warning control unit.	WT-48, "ID Registration Cannot Be Completed"
No flickering	Tire pressure warning check switch	Tire pressure warning check switch circuit is open.	—

ERASE SELF-DIAGNOSIS

- In order to make it easier to find the cause of hard-to-duplicate malfunctions, malfunction information is stored into the control unit as necessary during use by the user. This memory is not erased no matter how many times the ignition switch is turned “ON” and “OFF”.
- However, this information is erased by turning ignition switch “OFF” after performing self-diagnostics or by erasing the memory using the CONSULT-II. Refer to WT-20, "How to Erase Self-diagnostic Results" .

ID Registration Procedure

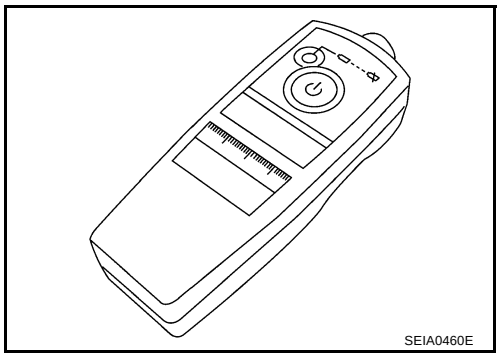
NES000HE

ID REGISTRATION WITH TRANSMITTER ACTIVATION TOOL

CAUTION:

This procedure must be done after replacement of a transmitter, low tire pressure warning control unit, or rotating wheels.

1. Perform “CONSULT-II Start Procedure”. Refer to GI-36, "CONSULT-II Start Procedure" .
2. Touch “WORK SUPPORT” on “SELECT DIAG MODE” screen, and select “ID REGIST”.
3. With the transmitter activation tool (J-45295) pushed against the front-left transmitter position of the air valve, press and hold the button for 5 seconds.
4. Register the IDs in order from FR LH, FR RH, RR RH, to RR LH. When ID registration of each wheel has been completed, buzzer sounds and turn signal lamp blinks.



Activation tire position		Buzzer	Turn signal 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		

5. 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.

ID REGISTRATION WITHOUT TRANSMITTER ACTIVATION TOOL

CAUTION:

This procedure must be done after replacement of a transmitter, low tire pressure warning control unit, or rotating wheels.

1. Perform “CONSULT-II Start Procedure”. Refer to GI-36, "CONSULT-II Start Procedure" .
2. Touch “WORK SUPPORT” on “SELECT DIAG MODE” screen, and select “ID REGIST”.
3. Adjust the tire pressure to the values shown in the table below for ID registration, and drive the vehicle at 40 km/h (25 MPH) or more for several minutes.

   NOTE:

   If ID registration is unable, buzzer beeps.

Tire position	Tire pressure kPa (kg/cm^2 , psi)
Front LH	240 (2.4, 34)
Front RH	220 (2.2, 31)
Rear RH	200 (2.0, 29)
Rear LH	180 (1.8, 26)

4. 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	

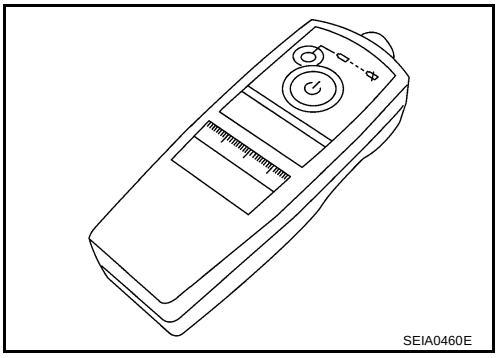
5. Inflate all tires to proper pressure. Refer to WT-56, "Tire" .

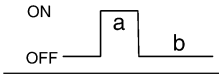
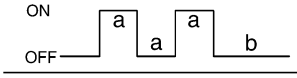
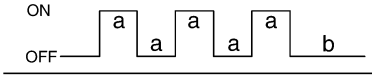
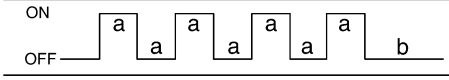
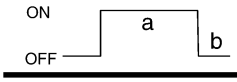
Transmitter Wake Up Operation

NES000HF

WITH ACTIVATION TOOL

1. With the transmitter activation tool (J-45295) pushed against the front-left transmitter, press and hold the button for 5 seconds.
   - When ignition switch ON, and then low tire pressure warning lamp blinks as per the following diagram, the respective then transmitter must be wake up.


SEIA0460E

Low tire pressure warning lamp blinking timing	Activation tire position
 a : 0.3 sec. b : 1.3 sec.	Front LH
 a : 0.3 sec. b : 1.3 sec.	Front RH
 a : 0.3 sec. b : 1.3 sec.	Rear RH
 a : 0.3 sec. b : 1.3 sec.	Rear LH
 a : 2 sec. b : 0.2 sec.	All tires

SEIA0762E

2. Register the ID of wheel that low tire pressure warning lamp flashes. When wake up of registered wheel has been completed, hazard warning lamp flashes two times.
3. After completing wake up all transmitters, make sure low tire pressure warning lamp goes out.

Inspections Before Trouble Diagnosis

NES000D0

DIAGNOSTIC PROCEDURE

1. CHECK ALL TIRE PRESSURES

Check all tire pressures. Refer to WT-56, "Tire" .

OK or NG

OK >> GO TO 2.
NG >> Check the condition of wheels (flat tire etc.). Then, adjust tire pressure to the specified value.

2. CHECK LOW TIRE PRESSURE WARNING LAMP

- Turn ignition switch “OFF”.
- Check low tire pressure warning lamp “ON” for approx. 1 second when turned ignition switch “ON”.

Dose low tire pressure warning lamp “ON” for approx. 1 second?

YES >> GO TO 3.
NO >> Go to WT-40, "Low Tire Pressure Warning Lamp Does Not Turn ON for Approx.1 Second When Ignition Switch Is Turned ON" .

3. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT HARNESS CONNECTOR

1. Disconnect low tire pressure warning control unit harness connector.
2. Check low tire pressure warning control unit pin terminals for damage or loose connection with harness connector.

OK or NG

OK >> GO TO 4.
NG >> Repair or replace damaged parts.

4. CHECK DTC

Drive at a speed of 40 km/h (25 MPH) or more for several minutes without stopping after perform self-diagnosis. Refer to WT-21, "Self-Diagnostic Procedure" .

OK or NG

OK >> **INSPECTION END**
NG >> Perform the self-diagnosis, inspect detected malfunction.

Trouble Diagnosis Chart for Symptoms

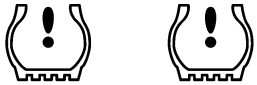
NES000D3

If low tire pressure warning lamp turns ON, perform self-diagnosis. Refer to WT-21, "Self-Diagnostic Procedure" .

Symptom	Condition	Check item	Reference page
Low tire pressure warning lamp does not turn ON for approx.1 second when ignition switch is turned ON.	Ignition ON	Power supply and ground for low tire pressure warning control unit	WT-40
		Combination meter	
Low tire pressure warning lamp stays ON when ignition switch is turned ON.	Ignition ON	Power supply and ground for low tire pressure warning control unit	WT-42
		Combination meter	
Low tire pressure warning lamp blinks when ignition switch is turned ON.	Ignition ON	Tire pressure warning check switch	WT-44
Hazard warning lamp blinks when ignition switch is turned ON.	Ignition ON	Combination flasher unit	WT-45
“TIRE PRESSURE” information in display does not exist.	Ignition ON	Power supply	WT-46
		Display circuit	
ID registration cannot be completed.	Engine running	Transmitter wake up	WT-48
		ID registration	
		Transmitter	

Low Tire Pressure Warning Lamp Symptom Chart

NES000DN

Diagnosis Item	Symptom (Ignition switch “ON”)	Low tire pressure warning lamp	Cause	Action
Low tire pressure warning lamp	Warning light comes on immediately and turns off after 1 second.	 ON 1 sec > stays OFF SEIA0592E	All wheel transmitters are “activated” (working).	None (system OK)
	Warning light blinks on for 2 seconds, then turns off for 0.2 seconds-repeats.	 ON 2 sec > OFF 0.2 sec SEIA0593E	All wheel transmitters are not activated.	Activate all wheel transmitters. Refer to WT-25, "Transmitter Wake Up Operation" .
	Warning light blinks 1 time.	 Blinks 1 time ON 0.3 sec > OFF 1.0 sec PEIA0073E	Front LH wheel transmitter is not activated.	Activate front LH wheel transmitter. Refer to WT-25, "Transmitter Wake Up Operation" .
	Warning light blinks 2 times.	 Blinks 2 times ON 0.3 sec > OFF 0.3 sec SEIA0595E	Front RH wheel transmitter is not activated.	Activate front RH wheel transmitter. Refer to WT-25, "Transmitter Wake Up Operation" .
	Warning light blinks 3 times.	 Blinks 3 times ON 0.3 sec > OFF 0.3 sec SEIA0596E	Rear RH wheel transmitter is not activated.	Activate rear RH wheel transmitter. Refer to WT-25, "Transmitter Wake Up Operation" .

Diagnosis Item	Symptom (Ignition switch “ON”)	Low tire pressure warning lamp	Cause	Action
Low tire pressure warning lamp	Warning light blinks 4 times.	 Blinks 4 times ON 0.3 sec > OFF 0.3 sec SEIA0597E	Rear LH wheel transmitter is not activated.	Activate rear LH wheel transmitter. Refer to WT-25, "Transmitter Wake Up Operation" .
	Warning light comes on and does not turn off.	 Comes ON and stays ON SEIA0598E	Tire pressure is low.	Check tire pressure with CONSULT-II. Refer to WT-21, "DATA MONITOR MODE" .
			The fuse for combination meter from battery is pulled out.	Check the fuse for combination meter from battery. Install or replace (if needed).
			Low tire pressure warning control unit connector pulled out.	Check low tire pressure warning control unit connector. Re-connect if needed.
			Low tire pressure or low tire pressure warning system malfunction.	● Perform CONSULT-II Self-Diagnosis. Refer to WT-19, "SELF-DIAG RESULT MODE" . – Perform ID Registration if needed. Refer to WT-24, "ID Registration Procedure" .
Turn signal lamp	Turn signal lamp does not flash 2 times or buzzer does not sound after transmitter activation.	—	1. Tool J-45295 (special service tool) battery low.	1. Install new battery.
			2. Ignition “OFF” during activation.	2. Make sure ignition is “ON” during activation.
			3. Tool No. J-45295 (special service tool) not positioned correctly.	3. Position tool correctly during activation.
			4. Transmitters already activated.	4. None

NOTE:
If more than one wheel transmitter is NOT activated, the warning light blinking patterns for those wheels will combine. (Example: one blink/“OFF”/three blinks = Rear LH and Rear RH transmitters are not activated.)

TROUBLE DIAGNOSIS FOR SYSTEM

PFP:00000

Power Supply Circuit

NES000D7

LOW TIRE PRESSURE WARNING CONTROL UNIT TERMINALS AND REFERENCE VALUE

Data are reference value and are measured between each terminal and ground.

Terminal	Wire color	Item	Condition	Data (Approx.)
1	Y/G	Power supply (Memory back-up)	Ignition switch: ON	Battery voltage
			Ignition switch: OFF	Battery voltage
2	BR/W	Power supply	Ignition switch: ON	Battery voltage
			Ignition switch: OFF	0 V
4	L/OR	Power supply	Ignition switch: ACC	Battery voltage
			Ignition switch: OFF	0 V
11	B	Ground	Always	0 V

CAUTION:

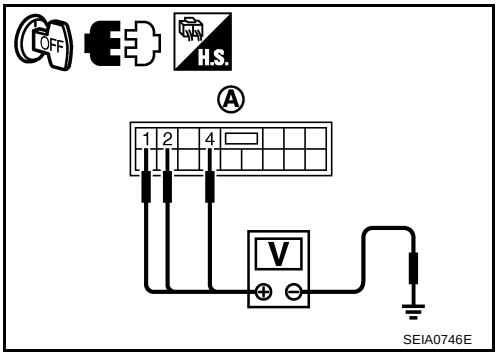
When using a circuit tester to measure voltage for inspection, be sure not to extend forcibly any connector terminals.

DIAGNOSTIC PROCEDURE

1. CHECK POWER SUPPLY

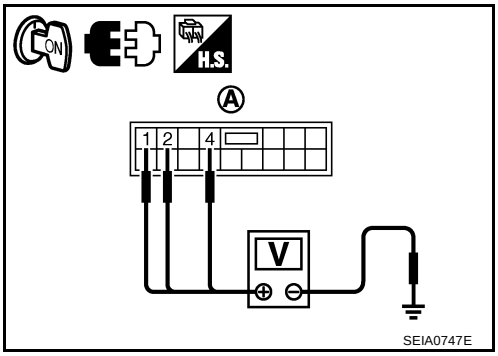
1. Turn ignition switch “OFF”.
2. Disconnect low tire pressure warning control unit harness connector.
3. Check voltage between low tire pressure warning control unit harness connector (A) terminals and ground.

Connector	Terminal	Voltage (Approx.)
M84	1 - Ground	Battery voltage
	2 - Ground	0 V
	4 - Ground	



4. Turn ignition switch “ON”. (Do not start engine.)
5. Check voltage between low tire pressure warning control unit harness connector (A) terminals and ground.

Connector	Terminal	Voltage (Approx.)
M84	1 - Ground	Battery voltage
	2 - Ground	
	4 - Ground	



OK or NG

OK >> GO TO 2.

NG >> Check the following. If any items are damaged, repair or replace damaged parts.

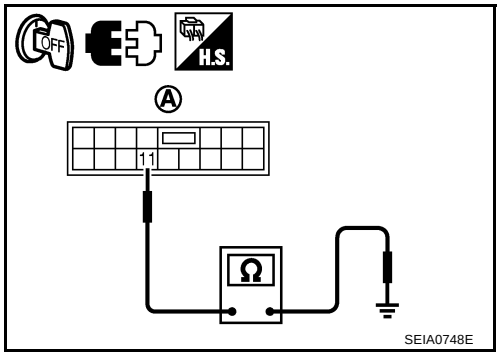
- 10A fuses [No. 1, 6, 21 located in the fuse block (J/B) No.1]. Refer to PG-2, "POWER SUPPLY ROUTING" .
- Harness for short or open between battery and low tire pressure warning control unit harness connector M84 terminal 1.
- Harness for short or open between ignition switch and low tire pressure warning control unit harness connector M84 terminals 2 and 4.
- Battery and ignition switch. Refer to PG-2, "POWER SUPPLY ROUTING" .

2. CHECK GROUND CIRCUIT

1. Turn ignition switch “OFF”.
2. Disconnect low tire pressure warning control unit harness connector.
3. Check continuity between low tire pressure warning control unit harness connector (A) M84 terminals 11.

   Continuity should exist.

   Also check harness for short to power.



OK or NG

OK >> **INSPECTION END**
NG >> Repair open circuit or short to power in harness or connectors.

Transmitter (NO DATA)

NES000DF

- Check the following if “[NO DATA] FL”, “[NO DATA] FR”, “[NO DATA] RR” or “[NO DATA] RL” is detected in self-diagnosis results with CONSULT-II or “flickering pattern for 21, 22, 23 or 24” is detected in self-diagnosis results without CONSULT-II.

CONSULT-II REFERENCE VALUE IN DATA MONITOR MODE

Data are reference value.

Monitored item	Content	Condition	Display value
AIR PRESS FL [kPa], [kg/cm^2] or [psi]	Condition of front LH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS FR [kPa], [kg/cm^2] or [psi]	Condition of front RH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS RR [kPa], [kg/cm^2] or [psi]	Condition of rear LH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS RL [kPa], [kg/cm^2] or [psi]	Condition of rear RH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value

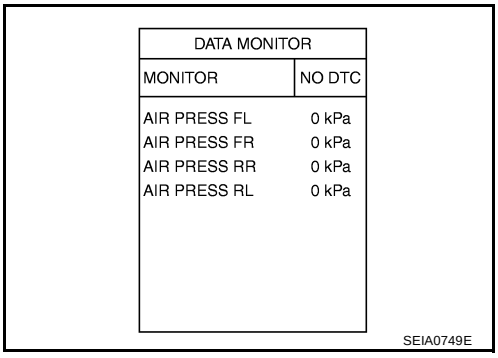
DIAGNOSTIC PROCEDURE

1. CHECK AIR PRESSURE SIGNAL

With CONSULT-II

1. Start engine.
2. Select “DATA MONITOR” mode for “AIR PRESSURE MONITOR” with CONSULT-II.
3. Read out the value of “AIR PRESS FL”, “AIR PRESS FR”, “AIR PRSEE RR” and “AIR PRESS RL”.

Monitored item	Condition	Display value
AIR PRESS FL	Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	0 kPa
AIR PRESS FR		
AIR PRESS RR		
AIR PRESS RL		



Are all tire pressures displayed 0 kPa?

YES >> GO TO 2.
NO >> GO TO 4.

2. CHECK ANTENNA CONNECTOR

Check antenna and feeder connector B183 for damage or loose connections.

OK or NG

OK >> Check low tire pressure warning control unit pin terminals for damage or loose connection with harness connector. If any items are damaged, repair or replace damaged parts.
NG >> Repair or replace antenna or feeder connector.

3. CHECK ID REGISTRATION

Perform the ID registration of all transmitters. Refer to WT-24, "ID Registration Procedure" .

Can ID registration of all transmitters be completed?

YES >> GO TO 4.
NO >> Replace malfunctioning transmitter then GO TO 5.

4. CHECK LOW TIRE PRESSURE WARNING SYSTEM

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” displayed the standardized value without turning low tire pressure warning lamp ON?

YES >> **INSPECTION END**
NO >> Replace low tire pressure warning control unit.

5. CHECK ID REGISTRATION

1. Perform the ID registration of all transmitters. Refer to WT-24, "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. Then check all tire pressures with CONSULT-II “DATA MONITOR ITEM” within 5 minutes.

Does “DATA MONITOR ITEM” displayed the standardized value without turning low tire pressure warning lamp ON?

YES >> **INSPECTION END**
NO >> Perform the self-diagnosis, inspect detected malfunction.

Transmitter (CHECKSUM ERR, CODE ERR, BATT VOLT LOW)

NES000DG

- Check the following if “[CHECKSUM ERR] FL”, “[CHECKSUM ERR] FR”, “[CHECKSUM ERR] RR”, “[CHECKSUM ERR] RL”, “[CODE ERR] FL”, “[CODE ERR] FR”, “[CODE ERR] RR”, “[CODE ERR] RL”, “[BATT VOLT LOW] FL”, “[BATT VOLT LOW] FR”, “[BATT VOLT LOW] RR” or “[BATT VOLT LOW] RL” is detected in self-diagnosis results with CONSULT-II or “flickering pattern for 31, 32, 33, 34, 41, 42, 43, 44, 45, 46, 47 or 48” is detected in self-diagnosis results without CONSULT-II.

CONSULT-II REFERENCE VALUE IN DATA MONITOR MODE

Data are reference value.

Monitored item	Content	Condition	Display value
AIR PRESS FL [kPa], [kg/cm^2] or [psi]	Condition of front LH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS FR [kPa], [kg/cm^2] or [psi]	Condition of front RH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS RR [kPa], [kg/cm^2] or [psi]	Condition of rear LH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS RL [kPa], [kg/cm^2] or [psi]	Condition of rear RH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value

DIAGNOSTIC PROCEDURE

1. CHECK ID REGISTRATION

1. Perform the ID registration of all transmitters. Refer to WT-24, "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. Then check all tire pressures with CONSULT-II “DATA MONITOR ITEM” within 5 minutes.
3. Perform the self-diagnosis, Replace malfunctioning transmitter.
4. Perform the ID registration of all transmitters. Refer to WT-24, "ID Registration Procedure" .

Can ID registration of all transmitters be completed.

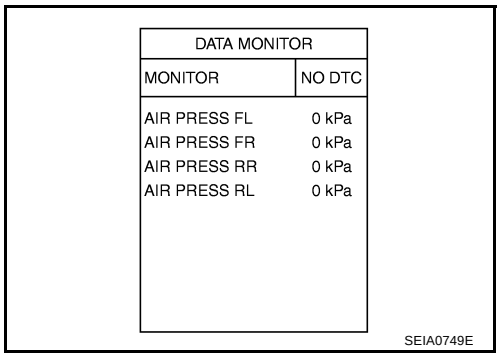
YES >> GO TO 5.
NO >> GO TO 2.

2. CHECK AIR PRESSURE SIGNAL

With CONSULT-II

1. Start engine.
2. Select “DATA MONITOR” mode for “AIR PRESSURE MONITOR” with CONSULT-II.
3. Read out the value of “AIR PRESS FL”, “AIR PRESS FR”, “AIR PRSEE RR” and “AIR PRESS RL”.

Monitored item	Condition	Display value
AIR PRESS FL	Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	0 kPa
AIR PRESS FR		
AIR PRESS RR		
AIR PRESS RL		



Are all tire pressures displayed 0 kPa?

YES >> GO TO 3.
NO >> GO TO 5.

3. CHECK ANTENNA CONNECTOR

Check antenna and feeder connector B183 for damage or loose connections.

OK or NG

OK >> Check low tire pressure warning control unit pin terminals for damage or loose connection with harness connector. If any items are damaged, repair or replace damaged parts.
NG >> Repair or replace antenna or feeder connector.

4. CHECK ID REGISTRATION

Perform the ID registration of all transmitters. Refer to WT-24, "ID Registration Procedure" .

Can ID registration of all transmitters be completed?

YES >> GO TO 5.
NO >> Replace malfunctioning transmitter then GO TO 6.

5. CHECK LOW TIRE PRESSURE WARNING SYSTEM

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” displayed the standardized value without turning low tire pressure warning lamp ON?

YES >> **INSPECTION END**
NO >> Replace low tire pressure warning control unit.

6. CHECK ID REGISTRATION

1. Perform the ID registration of all transmitters. Refer to WT-24, "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. Then check all tire pressures with CONSULT-II “DATA MONITOR ITEM” within 5 minutes.

Does “DATA MONITOR ITEM” displayed the standardized value without turning low tire pressure warning lamp ON?

YES >> **INSPECTION END**
NO >> GO TO 2.

Transmitter (PRESSDATA ERR)

NES0007F

- Check the following if “[PRESSDATA ERR] FL”, “[PRESSDATA ERR] FR”, “[PRESSDATA ERR] RR” or “[PRESSDATA ERR] RL” is detected in self-diagnosis results with CONSULT-II or “flickering pattern for 35, 36, 37 or 38” is detected in self-diagnosis results without CONSULT-II.

CONSULT-II REFERENCE VALUE IN DATA MONITOR MODE

Data are reference value.

Monitored item	Content	Condition	Display value
AIR PRESS FL [kPa], [kg/cm^2] or [psi]	Condition of front LH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS FR [kPa], [kg/cm^2] or [psi]	Condition of front RH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS RR [kPa], [kg/cm^2] or [psi]	Condition of rear LH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value
AIR PRESS RL [kPa], [kg/cm^2] or [psi]	Condition of rear RH tire air pressure	Just after the engine is started	0 kPa (0 kg/cm^2 , 0 psi)
		Start engine and drive at 40 km/h (25 MPH) or more for several minutes.	Approximately equal to the indication on tire gauge value

DIAGNOSTIC PROCEDURE

1. CHECK TIRE PRESSURE

1. Adjust tire pressure to specified value. Refer to WT-56, "Tire" .
2. Perform the ID registration of all transmitters. Refer to WT-24, "ID Registration Procedure" .
3. Drive at a speed of 40 km/h (25 MPH) or more for several minutes without stopping.
4. Check all tire pressures with CONSULT-II “DATA MONITOR ITEM” within 15 minutes after vehicle speed become 17 km/h (11 MPH).

What is display CONSULT-II “DATA MONITOR ITEM”?

438.60 kPa (4.47 kg/cm^2 , 63.60 psi)>>Replace malfunctioning transmitter.
Other than 438.60 kPa (4.47 kg/cm^2 , 63.60 psi)>>**INSPECTION END**

2. CHECK LOW TIRE PRESSURE WARNING SYSTEM

1. Perform the ID registration of all transmitters. Refer to WT-24, "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. Then check all tire pressures with CONSULT-II “DATA MONITOR ITEM” within 5 minutes.

Does “DATA MONITOR ITEM” displayed the standardized value without turning low tire pressure warning lamp ON?

YES >> **INSPECTION END**
NO >> Perform the self-diagnosis, inspect detected malfunction.

Vehicle Speed Signal

NES0007G

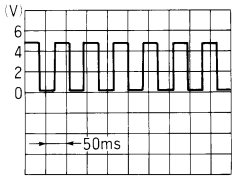
CONSULT-II REFERENCE VALUE IN DATA MONITOR MODE

Data are reference value.

Monitored item	Content	Condition	Display value
VHCL SPEED SE [km/h] or [mph]	Wheel speed	Vehicle stopped	0 km/h (0 MPH)
		Vehicle running **CAUTION:** **Check air pressure of tire under standard condition.**	Approximately equal to the indication on speedometer (Inside of ±10%)

LOW TIRE PRESSURE WARNING CONTROL UNIT TERMINALS AND REFERENCE VALUE

Data are reference value and are measured between each terminal and ground.

Terminal	Wire color	Item	Condition	Data (Approx.)
10	OR/L	Vehicle speed	Vehicle speed: 40 km/h (25 MPH)	 ELF1080D

CAUTION:

When using a oscilloscope to measure voltage for inspection, be sure not to extend forcibly any connector terminal.

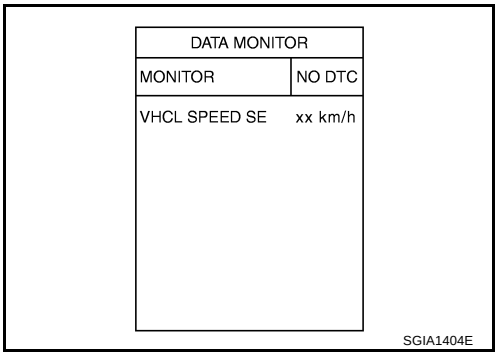
DIAGNOSTIC PROCEDURE

1. CHECK VEHICLE SPEED SENSOR

With CONSULT-II

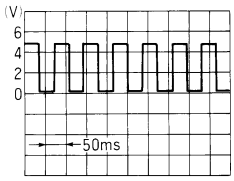
1. Start engine.
2. Select “DATA MONITOR” mode for “AIR PRESSURE MONITOR” with CONSULT-II.
3. Read out the value of “VHCL SPEED SE”.

Condition	Display value
Vehicle stopped	0 km/h (0 MPH)
Vehicle running **CAUTION:** **Check air pressure of tire under standard condition.**	Approximately equal to the indication on speedometer (Inside of ±10%)

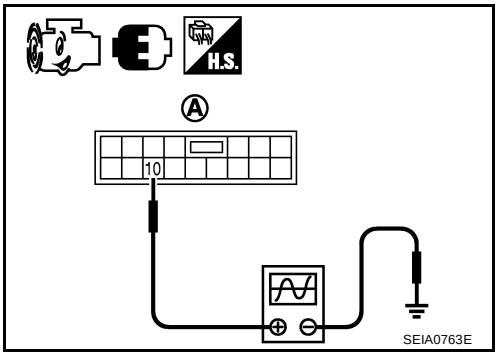


Without CONSULT-II

1. Start engine.
2. Check signal between low tire pressure warning control unit harness connector (A) terminal and ground with oscilloscope.

Connector	Terminal	Condition	Data (Approx.)
M84	10 - Ground	Vehicle speed: 40 km/h (25 MPH)	

ELF1080D

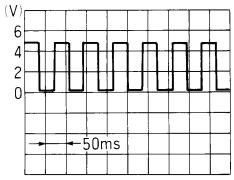


OK or NG

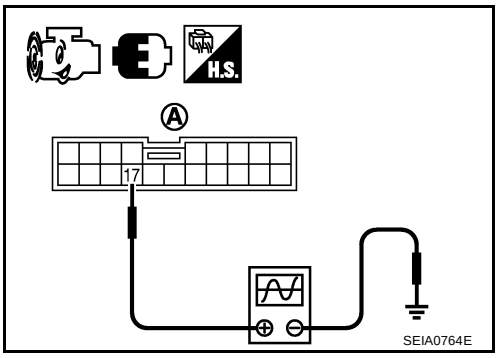
OK >> GO TO 4.
NG >> GO TO 2.

2. CHECK COMBINATION METER

1. Turn ignition switch “OFF”.
2. Disconnect low tire pressure warning control unit harness connector.
3. Check signal between combination meter harness connector (A) terminal and ground with oscilloscope.

Connector	Terminal	Condition	Data (Approx.)
M41	17 - Ground	Vehicle speed: 40 km/h (25 MPH)	

ELF1080D



Also check harness for short to ground and short to power.

OK or NG

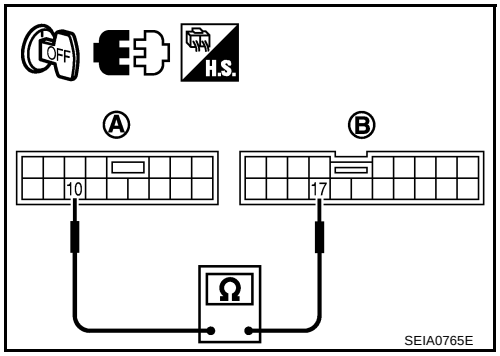
OK >> GO TO 3.
NG >> Check combination meter. Refer to DI-16, "Trouble Diagnosis" .

3. CHECK HARNESS BETWEEN LOW TIRE PRESSURE WARNING CONTROL UNIT AND COMBINATION METER

1. Turn ignition switch “OFF”.
2. Disconnect low tire pressure warning control unit harness connector and the combination meter harness connector.
3. Check continuity between low tire pressure warning control unit harness connector (A) M84 terminal 10 and combination meter harness connector (B) M41 terminal 17.

   Continuity should exist.

   Also check harness for short to ground and short to power.



OK or NG

OK >> GO TO 4.
NG >> Repair or replace damaged parts.

4. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT

Check low tire pressure warning control unit input/output signal. Refer to WT-17, "Low Tire Pressure Warning Control Unit Input/Output Signal Reference Values" .

OK or NG

OK >> GO TO 5.
NG >> Check low tire pressure warning control unit pin terminals for damage or loose connection with harness connector. If any items are damaged, repair or replace damaged parts.

5. CHECK DTC

Perform the self-diagnosis, after driving a vehicle for a while.

OK or NG

OK >> **INSPECTION END**
NG >> Replace low tire pressure warning control unit. Refer to WT-49, "Removal and Installation" .

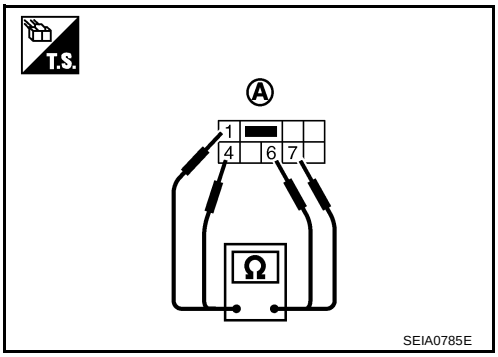
Component Inspection

NES000HK

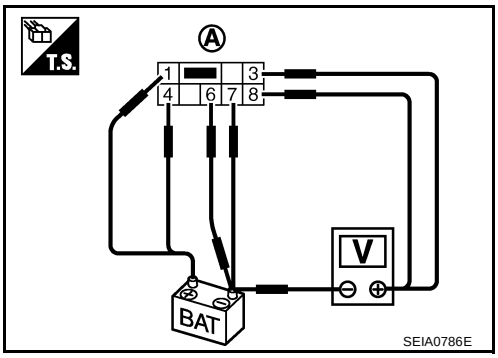
COMBINATION FLASHER UNIT

1. Turn ignition switch “OFF”.
2. Remove combination flasher unit. Refer to WT-50, "REMOVAL" .
3. Check resistance between the following terminals.
   - Combination flasher unit connector (A) terminals 1 and 7.
   - Combination flasher unit connector (A) terminals 4 and 6.

Terminal	Resistance (Approx.)
1 – 7	89 kΩ
4 – 6	78 Ω



4. Apply 12 V direct current to combination flasher unit connector (A) terminals 1 and 4 (positive), and to terminals 6 and 7 (negative).
5. Check voltege between combination flasher unit connector (A) terminals 3, 8 (positive) and battery (negative).



Terminal	Condition	Voltege (Approx.)
3 (positive) – battery (negative)	With terminal 6 connected with negative terminal of battery.	6 V
	Without terminal 6 connected with negative terminal of battery.	0 V
8 (positive) – battery (negative)	With terminal 6 connected with negative terminal of battery.	6 V
	Without terminal 6 connected with negative terminal of battery.	0 V

6. If NG, replace combination flasher unit.

TROUBLE DIAGNOSIS FOR SYMPTOMS

PFP:00007

Low Tire Pressure Warning Lamp Does Not Turn ON for Approx.1 Second When Ignition Switch Is Turned ON

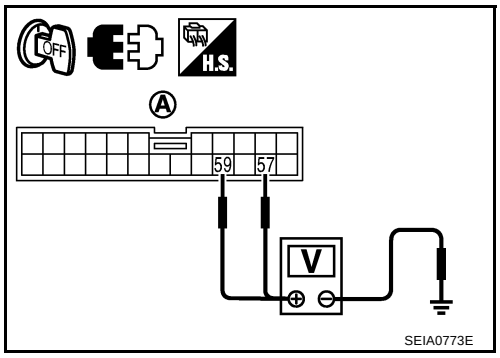
NES0007H

DIAGNOSTIC PROCEDURE

1. CHECK COMBINATION METER POWER SUPPLY CIRCUIT

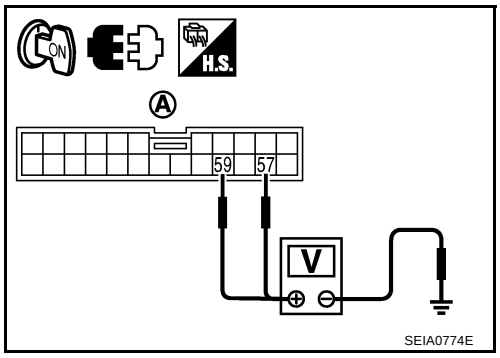
1. Turn ignition switch “OFF”.
2. Disconnect combination meter harness connector.
3. Check voltage between combination meter harness connector (A) terminal and ground.

Connector	Terminal	Voltage (Approx.)
M43	57 - Ground	Battery voltage
	59 - Ground	0 V



4. Turn ignition switch “ON”. (Do not start engine.)
5. Check voltage between combination meter harness connector (A) terminal and ground.

Connector	Terminal	Voltage (Approx.)
M43	57 - Ground	Battery voltage
	59 - Ground	



OK or NG

OK >> GO TO 2.

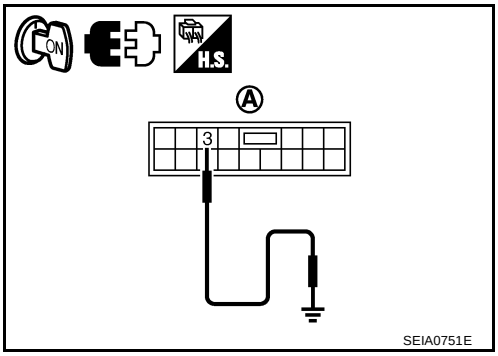
NG >> Check the following. If any items are damaged, repair or replace damaged parts.

- 10A fuse [No. 6, 9, located in the fuse block (J/B) No.1]. Refer to PG-2, "POWER SUPPLY ROUTING" .
- Harness for short or open between battery and combination meter harness connector M43 terminal 57.
- Harness for short or open between ignition switch and combination meter harness connector M43 terminal 59.
- Ignition switch. Refer to PG-2, "POWER SUPPLY ROUTING" .

2. CHECK HARNESS BETWEEN LOW TIRE PRESSURE WARNING CONTROL UNIT AND COMBINATION METER

1. Turn ignition switch “OFF”.
2. Disconnect combination meter harness connector and low tire pressure warning control unit harness connector.
3. Check continuity between low tire pressure warning control unit harness connector (A) M84 terminal 3 and ground.

Continuity should no exist.



OK or NG

OK >> GO TO 3.
NG >> Repair short to ground in harness or connector.

3. CHECK LOW TIRE PRESSURE WARNING LAMP

1. Turn ignition switch “OFF”.
2. Connect combination meter harness connector.
3. Disconnect low tire pressure warning control unit harness connector.
4. Turn ignition switch “ON”. (Do not start engine.)

Does low tire pressure warning lamps turn ON?

OK >> GO TO 4.
NG >> Replace combination meter. Refer to DI-24, "Disassembly and Assembly for Combination Meter" .

4. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT

Check low tire pressure warning control unit input/output signal. Refer to WT-17, "Low Tire Pressure Warning Control Unit Input/Output Signal Reference Values" .

OK or NG

OK >> GO TO 5.
NG >> Check low tire pressure warning control unit pin terminals for damage or loose connection with harness connector. If any items are damaged, repair or replace damaged parts.

5. CHECK SYMPTOM

Check again.

OK or NG

OK >> **INSPECTION END**
NG >> Replace low tire pressure warning control unit. Refer to WT-49, "Removal and Installation" .

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

NES0007I

DIAGNOSTIC PROCEDURE

1. CHECK SYSTEM FOR LOW TIRE PRESSURE WARNING CONTROL UNIT

Perform self-diagnosis. Refer to WT-21, "Self-Diagnostic Procedure" .

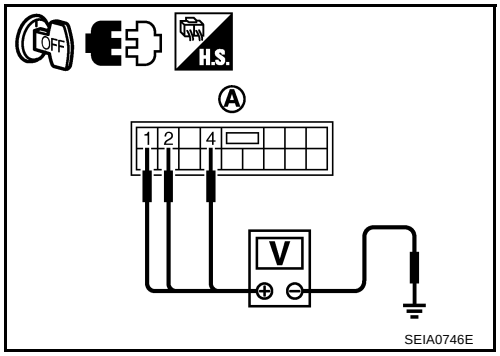
Does the self-diagnostic results indicate any malfunctions?

YES >> Perform trouble diagnosis. Refer to WT-19, "SELF-DIAG RESULT MODE" .
NO >> GO TO 2.

2. CHECK POWER SUPPLY

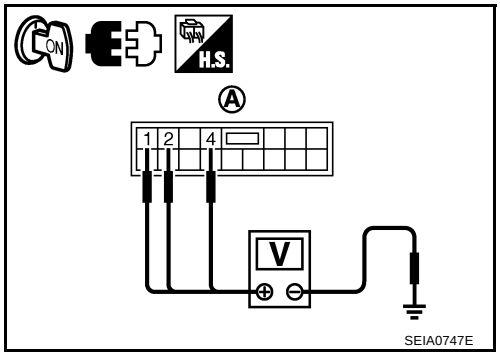
1. Turn ignition switch “OFF”.
2. Disconnect low tire pressure warning control unit harness connector.
3. Check voltage between low tire pressure warning control unit harness connector (A) terminals and ground.

Connector	Terminal	Voltage (Approx.)
M84	1 - Ground	Battery voltage
	2 - Ground	0 V
	4 - Ground	



4. Turn ignition switch “ON”. (Do not start engine.)
5. Check voltage between low tire pressure warning control unit harness connector (A) terminals and ground.

Connector	Terminal	Voltage (Approx.)
M84	1 - Ground	Battery voltage
	2 - Ground	
	4 - Ground	



OK or NG

OK >> GO TO 3.
NG >> Check the following. If any items are damaged, repair or replace damaged parts.

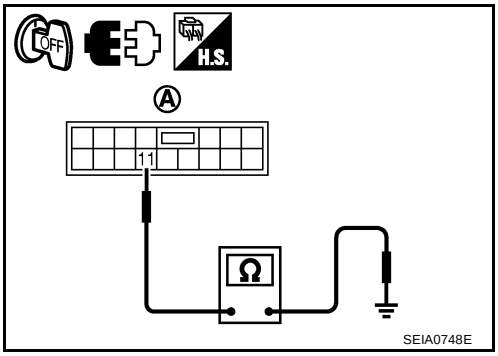
- 10A fuses [No. 1, 6, 21 located in the fuse block (J/B) No.1]. Refer to PG-2, "POWER SUPPLY ROUTING" .
- Harness for short or open between battery and low tire pressure warning control unit harness connector M84 terminal 1.
- Harness for short or open between ignition switch and low tire pressure warning control unit harness connector M84 terminals 2 and 4.
- Battery and ignition switch. Refer to PG-2, "POWER SUPPLY ROUTING" .

3. CHECK GROUND CIRCUIT

1. Turn ignition switch “OFF”.
2. Disconnect low tire pressure warning control unit harness connector.
3. Check continuity between low tire pressure warning control unit harness connector (A) M84 terminals 11.

   Continuity should exist.

   Also check harness for short to power.



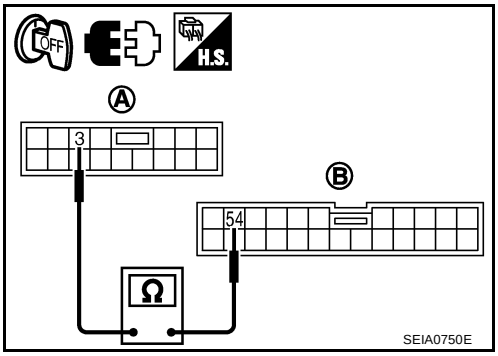
OK or NG

OK >> GO TO 4.
NG >> Repair open circuit or short to power in harness or connectors.

4. CHECK HARNESS BETWEEN LOW TIRE PRESSURE WARNING CONTROL UNIT AND COMBINATION METER

1. Turn ignition switch “OFF”.
2. Disconnect combination meter harness connector and low tire pressure warning control unit harness connector.
3. Check continuity between low tire pressure warning control unit harness connector (A) M84 terminal 3 and combination meter harness connector (B) M43 terminal 54.

   Continuity should exist.



OK or NG

OK >> GO TO 5.
NG >> Repair open circuit in harness or connectors.

5. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT

Check low tire pressure warning control unit input/output signal. Refer to WT-17, "Low Tire Pressure Warning Control Unit Input/Output Signal Reference Values" .

OK or NG

OK >> GO TO 6.
NG >> Check low tire pressure warning control unit pin terminals for damage or loose connection with harness connector. If any items are damaged, repair or replace damaged parts.

6. CHECK SYMPTOM

Check again.

OK or NG

OK >> **INSPECTION END**
NG >> Replace low tire pressure warning control unit. Refer to WT-49, "Removal and Installation" .

Low Tire Pressure Warning Lamp Blinks When Ignition Switch Is Turned ON

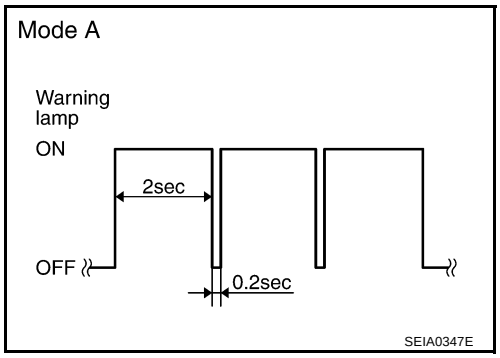
NES0007J

SYMPTOM:

If warning lamp blinks below, the system is normal.

Blink Mode A

- This mode shows transmitter status is OFF-mode.
  Perform transmitter wake up operation. Refer to WT-25, "Transmitter Wake Up Operation" .

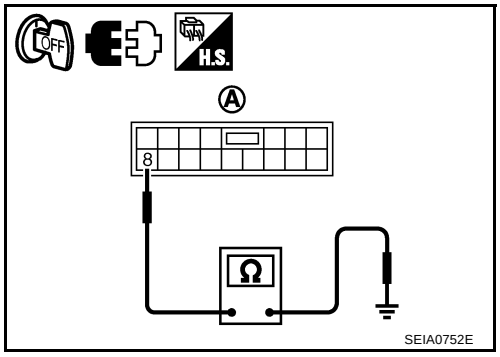


DIAGNOSTIC PROCEDURE

1. CHECK TIRE PRESSURE WARNING CHECK SWITCH CIRCUIT

1. Turn ignition switch “OFF”.
2. Disconnect low tire pressure warning control unit connector.
3. Check continuity between low tire pressure warning control unit harness connector (A) M84 terminal 8 and ground.

Continuity should not exist.



OK or NG

OK >> GO TO 2.
NG >> Repair short to ground in harness or connector.

2. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT

Check low tire pressure warning control unit input/output signal. Refer to WT-17, "Low Tire Pressure Warning Control Unit Input/Output Signal Reference Values" .

OK or NG

OK >> GO TO 3.
NG >> Check low tire pressure warning control unit pin terminals for damage or loose connection with harness connector. If any items are damaged, repair or replace damaged parts.

3. CHECK SYMPTOM

Check again.

OK or NG

OK >> **INSPECTION END**
NG >> Replace low tire pressure warning control unit. Refer to WT-49, "Removal and Installation" .

Hazard Warning Lamp Blinks When Ignition Switch Is Turned ON

NES0007K

DIAGNOSTIC PROCEDURE

1. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT CIRCUIT

1. Turn ignition switch “OFF”.
2. Disconnect low tire pressure warning control unit harness connector.
3. Turn ignition switch “ON”. (Do not start engine.)

Does hazard warning lamp blinks?

YES >> Check the following. If any items are damaged, repair or replace damaged parts.
- Harness for short to ground between combination flasher unit harness connector M91 terminal 6 and low tire pressure warning control unit harness connector M84 terminal 9.
- Combination flasher unit.

NO >> GO TO 2.

2. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT

Check low tire pressure warning control unit input/output signal. Refer to WT-17, "Low Tire Pressure Warning Control Unit Input/Output Signal Reference Values" .

OK or NG

OK >> GO TO 3.
NG >> Check low tire pressure warning control unit pin terminals for damage or loose connection with harness connector. If any items are damaged, repair or replace damaged parts.

3. CHECK SYMPTOM

Check again.

OK or NG

OK >> **INSPECTION END**
NG >> Replace low tire pressure warning control unit. Refer to WT-49, "Removal and Installation" .

“TIRE PRESSURE” Information In Display Does Not Exist

NES0007L

DIAGNOSTIC PROCEDURE

1. CHECK FUSE

Check 10A fuses [No. 21 located in the fuse block (J/B) No.1] for low tire pressure warning control unit. Refer to PG-2, "POWER SUPPLY ROUTING" .

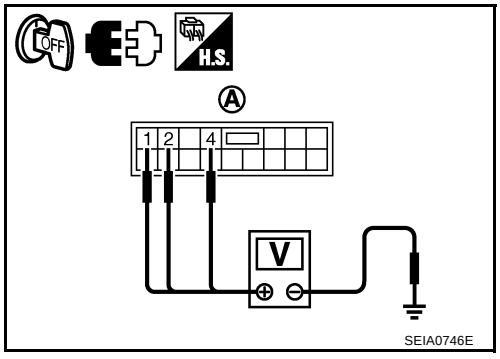
OK or NG

OK >> GO TO 3.
NG >> GO TO 2.

2. CHECK POWER SUPPLY

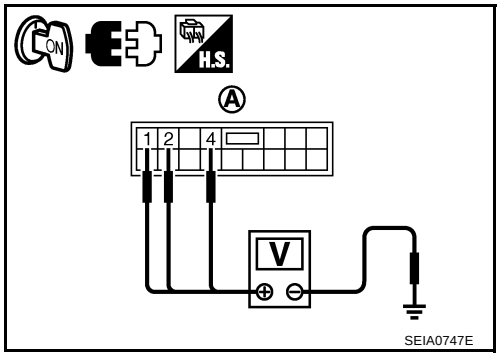
1. Turn ignition switch “OFF”.
2. Disconnect low tire pressure warning control unit harness connector.
3. Check voltage between low tire pressure warning control unit harness connector (A) terminals and ground.

Connector	Terminal	Voltage (Approx.)
M84	1 - Ground	Battery voltage
	2 - Ground	0 V
	4 - Ground	



4. Turn ignition switch “ON”. (Do not start engine.)
5. Check voltage between low tire pressure warning control unit harness connector (A) terminals and ground.

Connector	Terminal	Voltage (Approx.)
M84	1 - Ground	Battery voltage
	2 - Ground	
	4 - Ground	



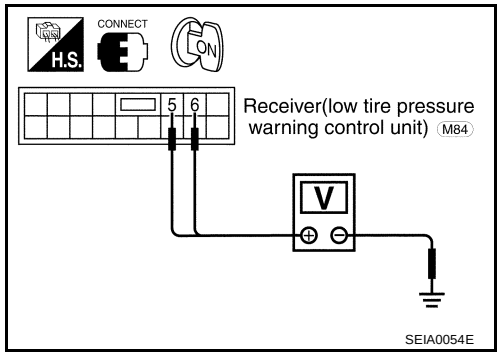
OK or NG

OK >> GO TO 3.
NG >> Check the following. If any items are damaged, repair or replace damaged parts.

- 10A fuses [No. 1, 6, 21 located in the fuse block (J/B) No.1]. Refer to PG-2, "POWER SUPPLY ROUTING" .
- Harness for short or open between battery and low tire pressure warning control unit harness connector M84 terminal 1.
- Harness for short or open between ignition switch and low tire pressure warning control unit harness connector M84 terminals 2 and 4.
- Battery and ignition switch. Refer to PG-2, "POWER SUPPLY ROUTING" .

3. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT SIGNAL

1. Turn ignition switch “ON”. (Do not start engine.)
2. Check voltage between low tire pressure warning control unit harness connector terminal and ground.



Connector	Terminal	Voltage (Approx.)
M84	5 - Ground	0 V (Min.) and 5 V (Max.) are alternately repeated
	6 - Ground	

OK or NG

OK >> GO TO 4.

NG >> Check the following. If any items are damaged, repair or replace damaged parts.

- Harness for open or short between low tire pressure control unit harness connector M84 terminal 5 and multifunction switch harness connector M83 terminal 15.
- Harness for open or short between low tire pressure control unit harness connector M84 terminal 6 and multifunction switch harness connector M83 terminal 16.
- Harness for open or short between display harness connector M82 terminal 16 and multifunction switch harness connector M83 terminal 9.
- Harness for open or short between display harness connector M82 terminal 15 and multifunction switch harness connector M83 terminal 10.
- Multifunction switch
- Display

4. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT

Check low tire pressure warning control unit input/output signal. Refer to WT-17, "Low Tire Pressure Warning Control Unit Input/Output Signal Reference Values" .

OK or NG

OK >> GO TO 5.

NG >> Check low tire pressure warning control unit pin terminals for damage or loose connection with harness connector. If any items are damaged, repair or replace damaged parts.

5. CHECK SYMPTOM

Check again.

OK or NG

OK >> **INSPECTION END**

NG >> Replace low tire pressure warning control unit. Refer to WT-49, "Removal and Installation" .

ID Registration Cannot Be Completed

NES0007M

DIAGNOSTIC PROCEDURE

1. ID REGISTRATION

1. Perform transmitter wake up. Refer to WT-25, "Transmitter Wake Up Operation" .
2. Perform ID registration of all transmitters. Refer to WT-24, "ID Registration Procedure" .

Can ID registration of all transmitters be completed?

YES >> GO TO 2.
NO >> Go to WT-31, "Transmitter (NO DATA)" .

2. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT

Check low tire pressure warning control unit input/output signal. Refer to WT-17, "Low Tire Pressure Warning Control Unit Input/Output Signal Reference Values" .

OK or NG

OK >> GO TO 3.
NG >> Check low tire pressure warning control unit pin terminals for damage or loose connection with harness connector. If any items are damaged, repair or replace damaged parts.

3. CHECK SYMPTOM

Check again.

OK or NG

OK >> **INSPECTION END**
NG >> Replace low tire pressure warning control unit. Refer to WT-49, "Removal and Installation" .

CONTROL UNIT

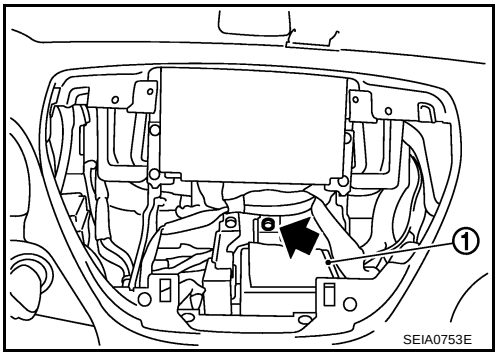
PFP:40720

Removal and Installation

NES000D8

REMOVAL

1. Turn the ignition switch OFF and disconnect the battery cable from the negative terminal.
2. Remove the cluster lid C. Refer to IP-10, "Removal and Installation" .
3. Remove the low tire pressure warning control unit bolt.
4. Disconnect the low tire pressure warning control unit harness connector and antenna harness connector.
5. Remove the low tire pressure warning control unit (1).



INSTALLATION

Note the following, and installation is the reverse order of removal.

- When installing the low tire pressure warning control unit, tighten bolt to the specified torque.

Low tire pressure warning control unit bolt : 3.4 N·m (0.35 kg-m, 30 in-lb)

COMBINATION FLASHER UNIT

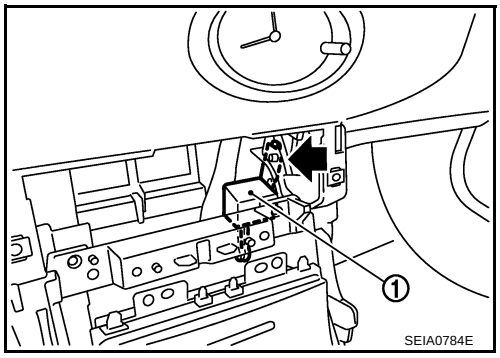
PFP:25730

Removal and Installation

NES000HJ

REMOVAL

1. Turn the ignition switch OFF and disconnect the battery cable from the negative terminal.
2. Remove cluster lid center lower. Refer to IP-10, "Removal and Installation" .
3. Remove console box assembly. Refer to IP-10, "Removal and Installation" .
4. Remove CD auto changer. Refer to AV-52, "Removal and Installation of CD Auto Changer" .
5. Remove combination flasher unit bolt.
6. Remove combination flasher unit (1).
7. Disconnect combination flasher unit harness connector.



INSTALLATION

Note the following, and installation is the reverse order of removal.

- When installing the low tire pressure warning control unit, tighten bolt to the specified torque.

Combination flasher unit bolt : 3.4 N·m (0.35 kg-m, 30 in-lb)

TRANSMITTER

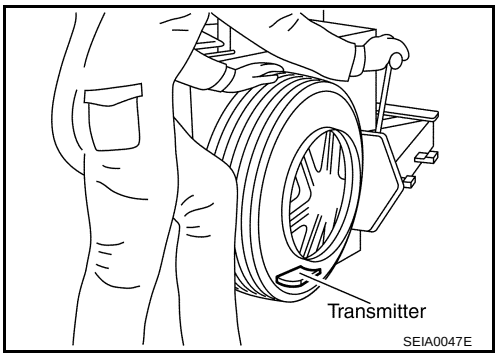
PFP:40700

Removal and Installation

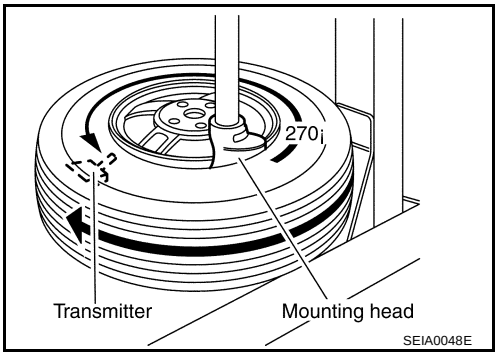
NES000D9

REMOVAL

1. Deflate tire. Unscrew transmitter retaining nut and allow transmitter to fall into tire.
2. Gently bounce tire so that transmitter falls to bottom of tire. Place on tire changing machine and break both tire beads ensuring that the transmitter remains at the bottom of the tire.

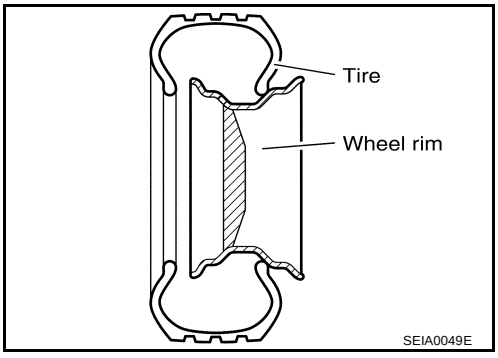


3. Turn tire so that valve hole is at bottom and bounce so that transmitter is near valve hole. Carefully lift tire onto turntable and position valve hole (and transmitter) 270 degree from mounting/ dismounting head.
4. Lubricate tire well and remove first side of the tire. Reach inside the tire and remove the transmitter. Remove second side of tire.



INSTALLATION

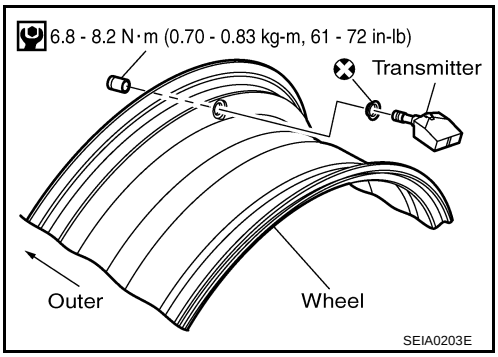
1. Put first side of tire onto rim.



2. Mount transmitter on rim and tighten nut.

CAUTION:

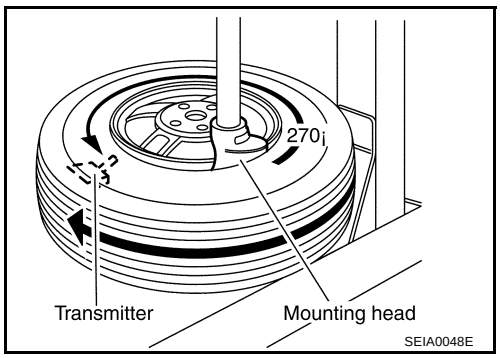
Speed for tightening nut should be less than 40 rpm.



3. Place wheel on turntable of tire machine. Ensure that transmitter is 270 degree from mounting head when second side of tire is fitted.

   CAUTION:
   Never touch the transmitter at mounting head.

4. Lubricate tire well and fit second side of tire as normal. Ensure that tire does not rotate relative to rim.
5. Inflate tire and fit to appropriate wheel position.



ROAD WHEEL

PFP:40300

Inspection

NES00071

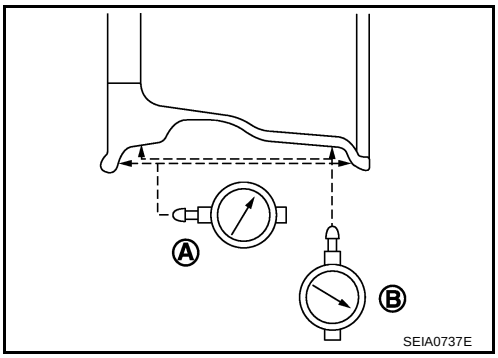
ALUMINUM WHEEL

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 in the figure.

Lateral runout limit (A) : 0.3 mm (0.012 in)
Radial runout limit (B) : 0.3 mm (0.012 in)



c. If the total runout value exceeds the limit, replace aluminum wheel.

STEEL WHEEL (FOR EMERGENCY USE)

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 steel wheel and mount wheel on a tire balance machine.

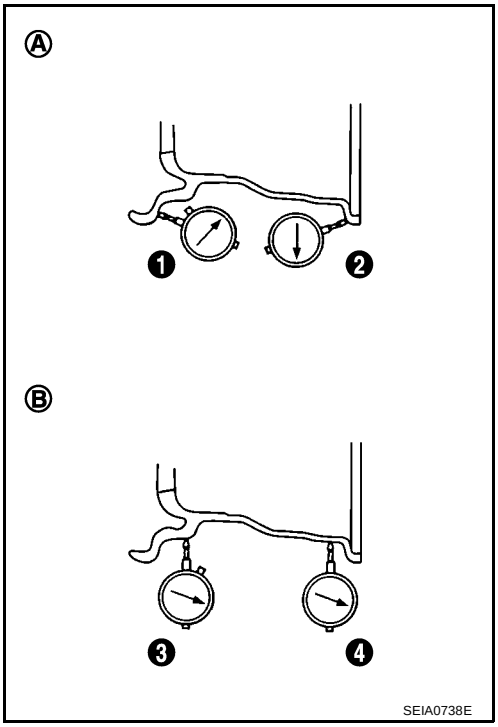
b. Set two dial indicators as shown in the figure.

c. Set each dial indicator to “0”.

d. Rotate wheel and check dial indicators at several points around the circumference of the wheel.

e. Calculate runout at each point as shown below.

Lateral runout limit (A) : (❶+❷)/2
Radial runout limit (B) : (❸+❹)/2



f. Select maximum positive runout value and the maximum negative value. Add the two values to determine total runout.

CAUTION:
In case a positive or negative value is not available, use the maximum value (negative or positive) for total runout.

Lateral runout limit (A) : 1.5 mm (0.059 in)
Radial runout limit (B) : 1.5 mm (0.059 in)

g. If the total runout value exceeds the limit, replace steel wheel.

ROAD WHEEL TIRE ASSEMBLY

PFP:40300

Balancing Wheels (Bonding Weight Type)

NES00072

REMOVAL

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.**

WHEEL BALANCE ADJUSTMENT

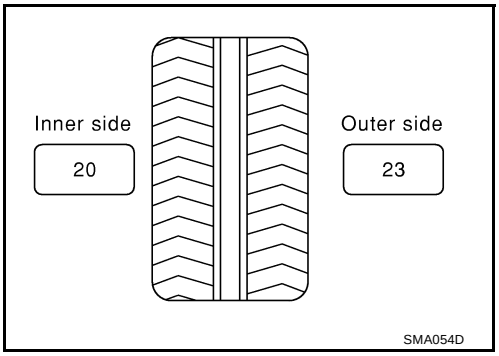
- If a tire balance machine has adhesion balance weight mode settings and drive-in weight mode setting, select and adjust a drive-in weight mode suitable for road wheels.

1. Set road wheel on wheel balancer using the center hole as a guide. Start the tire balance machine.
2. When inner and outer unbalance values are shown on the wheel balancer indicator, multiply outer unbalance value by 5/3 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:
   - **Never 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.**

a. Indicated unbalance value × 5/3 = balance weight to be installed
Calculation example:
23 g (0.81 oz) × 5/3 = 38.33 g (1.35 oz) = 40 g (1.41 oz) balance weight (closer to calculated balance weight value)

NOTE:
Note that balance weight value must be closer to the calculated balance weight value.
Example:
37.4 = 35 g (1.23 oz)
37.5 = 40 g (1.41 oz)

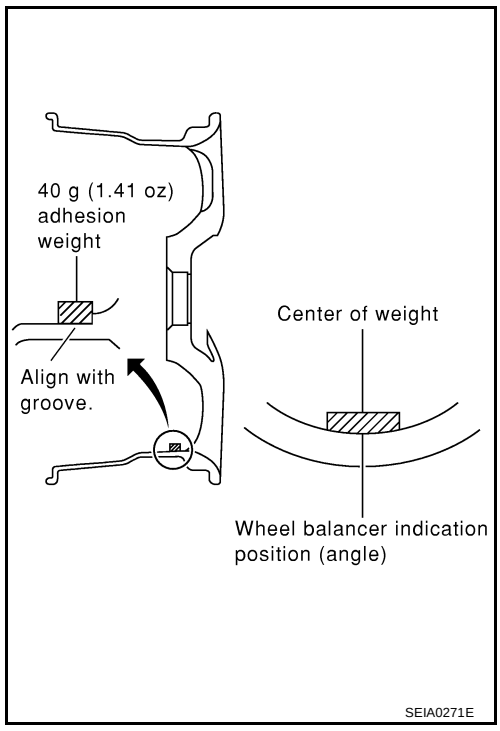


b. Install balance weight in the position shown in the figure.

c. 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 non-reusable; always replace with new ones.**
- **Never install more than three sheets of balance weight.**



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

CAUTION:

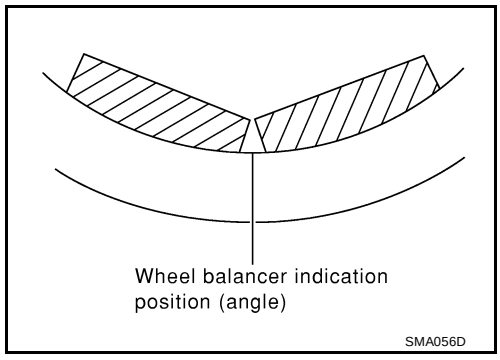
Never install one balance weight sheet on top of another.

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:

Never install more than two balance weights.



5. Start wheel balancer. Make sure that inner and outer residual unbalance values are 5 g (0.17 oz) each or below.

6. If either residual unbalance value exceeds 5 g (0.17 oz), repeat installation procedures.

Wheel balance	Dynamic (At rim flange)	Static
Maximum allowable unbalance	5 g (0.17 oz) (one side)	10 g (0.35 oz)

Tire Rotation

NES00073

1. Follow the maintenance schedule for tire rotation service intervals. Refer to MA-6, "Introduction of Periodic Maintenance" .

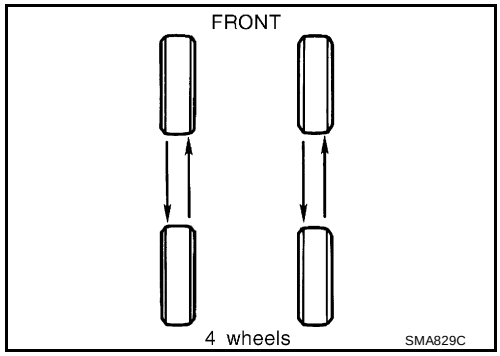
2. Do not include the spare tire when rotating the tires.

3. When installing the wheel, tighten wheel nuts to the specified torque.

Wheel nuts : 108 N·m (11 kg-m, 80 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.**
- **Be careful not to tighten wheel nut at torque exceeding the criteria for preventing strain of disc rotor.**



4. Perform the ID registration, after tire rotation. Refer to WT-24, "ID Registration Procedure" .

SERVICE DATA AND SPECIFICATIONS (SDS)

PFP:00030

Road Wheel

NES000DH

Kind of wheel		Aluminum	Steel (emergency use)
Maximum radial runout limit	Lateral runout limit	0.3 mm (0.012 in)	1.5 mm (0.059 in)
	Radial runout limit		
Maximum allowable unbalance	Dynamic (On the ear part)	5 g (0.17 oz) (per side) or less	
	Static (On the ear part)	10 g (0.35 oz) or less	

Unit: mm (in)

Wheel size	Offset
17 × 7-1/2 JJ	35 (1.38)
18 × 8 JJ	40 (1.57)
18 × 7-1/2 JJ	35 (1.38)
19 × 8-1/2 JJ	40 (1.57)
16 × 4T	30 (1.18)

Tire

NES000DI

Unit: kPa (kg/cm^2 , psi)

Tire size	Air pressure	
	Front	Rear
P225/55R17 95V	230 (2.3, 33)	230 (2.3, 33)
P245/45R18 96V		
245/40R19 94W		
T145/90D16	420 (4.2, 60)	420 (4.2, 60)

Tightening Torque

NES000DJ

Wheel nut	108 N·m (11 kg-m, 80 ft-lb)