VEHICLE INFORMATION

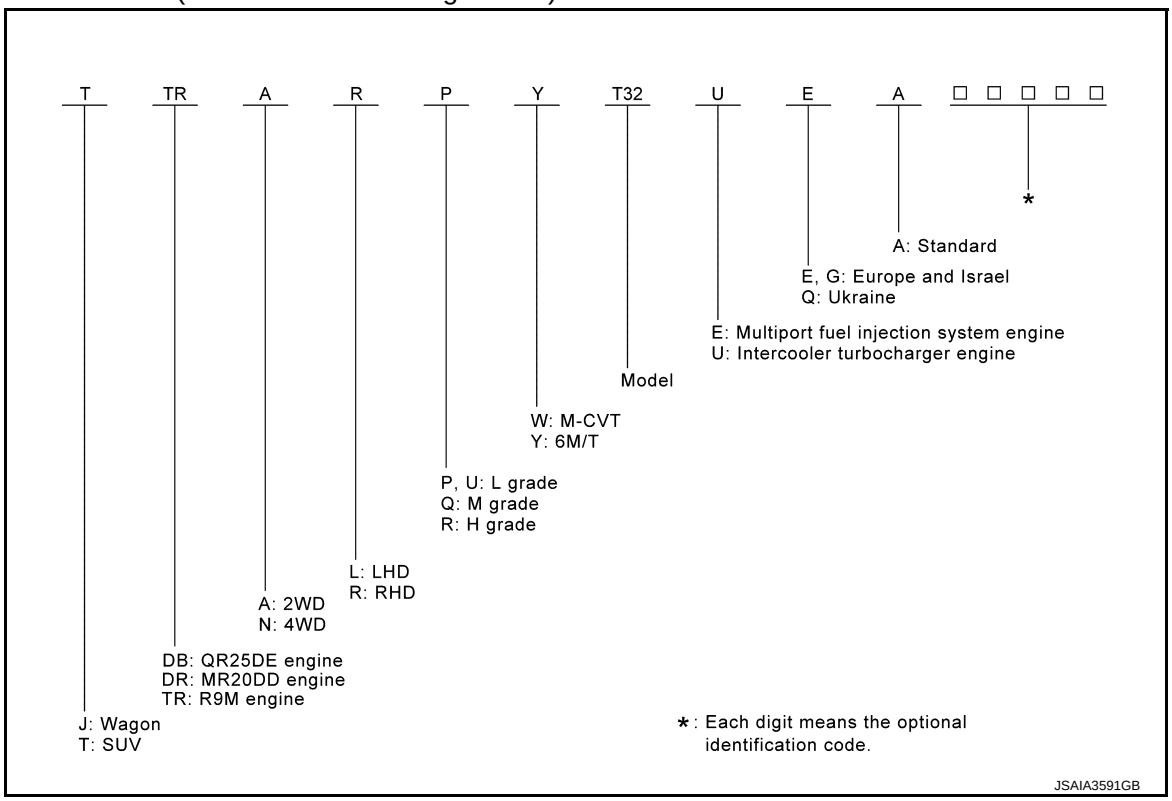
IDENTIFICATION INFORMATION

Model Variation

INFOID:0000000010727567

Destination	Body	Engine	Axle	Handle	Transmission	Grade	Model
Europe and Israel	SUV	R9M	2WD	RHD	6M/T	L	TTRARPY-UEA
						M	TTRARQY-UEA
						H	TTRARRY-UEA
					M-CVT	M	TTRARQW-UEA
						H	TTRARRW-UEA
			4WD		6M/T	M	TTRNRQY-UEA
						H	TTRNRRY-UEA
	Wagon		2WD		6M/T	L	JTRARPY-UEA
						M	JTRARQY-UEA
						H	JTRARRY-UEA
					M-CVT	M	JTRARQW-UEA
						H	JTRARRW-UEA
			4WD		6M/T	M	JTRNRQY-UEA
						H	JTRNRRY-UEA
	SUV		2WD	LHD		L	TTRALPY-UGA
						M	TTRALQY-UGA
						H	TTRALRY-UGA
					M-CVT	M	TTRALQW-UGA
						H	TTRALRW-UGA
			4WD		6M/T	M	TTRNLQY-UGA
						H	TTRNLRY-UGA
	Wagon		2WD			L	JTRALPY-UGA
						M	JTRALQY-UGA
						H	JTRALRY-UGA
					M-CVT	M	JTRALQW-UGA
						H	JTRALRW-UGA
			4WD		6M/T	M	JTRNLQY-UGA
						H	JTRNLRY-UGA
Ukraine	SUV	MR20DD	2WD			L	TDRALPY-EQA
					M-CVT	M	TDRALQW-EQA
			4WD			L	TDRNLUW-EQA
						M	TDRNLQW-EQA
						H	TDRNLRW-EQA
		QR25DE				M	TDBNLQW-EQA
						H	TDBNLRW-EQA
		R9M			6M/T		TTRNLRY-UQA

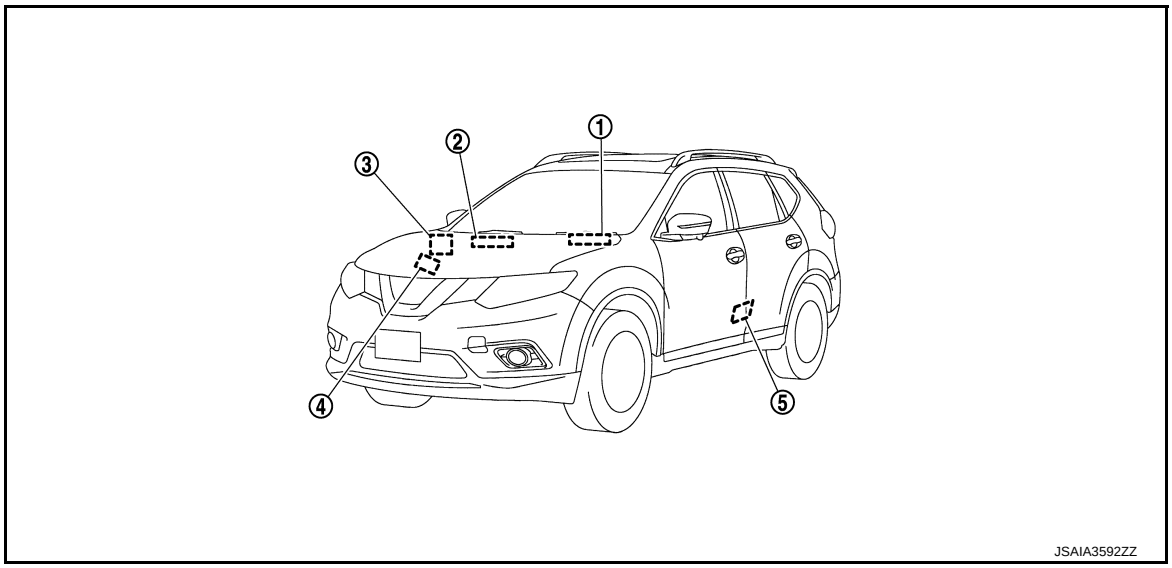
Model variation code (Prefix and suffix designations)



Information About Identification or Model Code

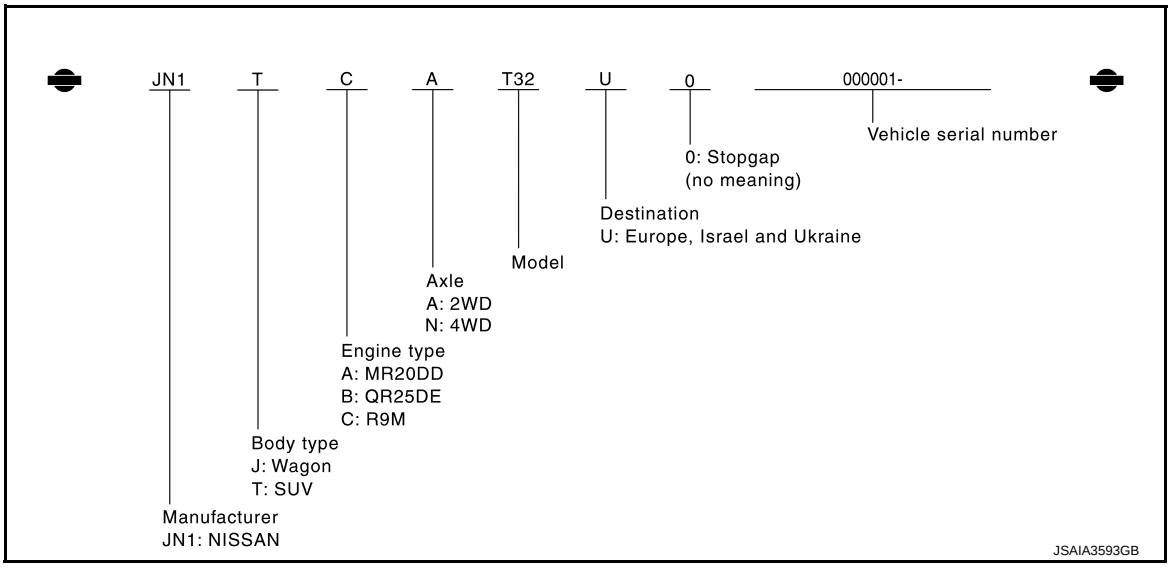
INFOID:0000000010727568

IDENTIFICATION NUMBER

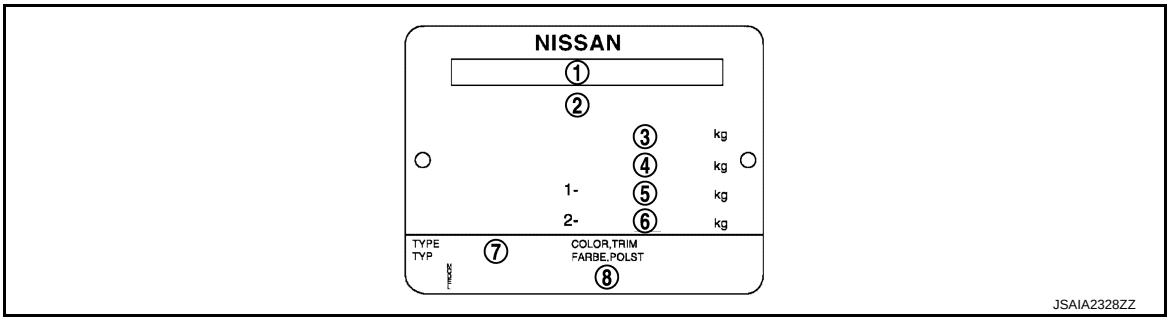


① Vehicle identification number plate
② Vehicle identification number (Chassis number)
③ Vehicle identification plate
④ Air conditioner specification label
⑤ Tire placard (Drivers side)

VEHICLE IDENTIFICATION NUMBER ARRANGEMENT



IDENTIFICATION PLATE

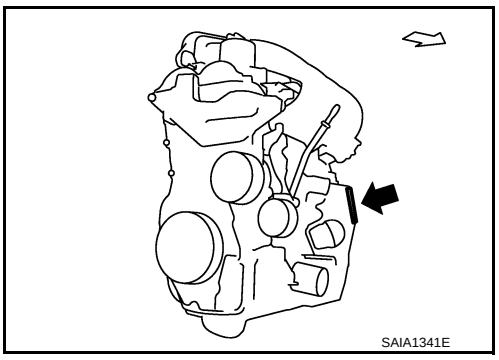


① Type approval number (Models with WVTA) Blank (Models without WVTA)	② Vehicle identification number (Chassis number)	③ Gross vehicle weight
④ Gross combination weight + Gross trailing capacity (weight)	⑤ Gross axle weight (Front)	⑥ Gross axle weight (Rear)
⑦ Vehicle type	⑧ Model variation code	

ENGINE SERIAL NUMBER (CYLINDER BLOCK)

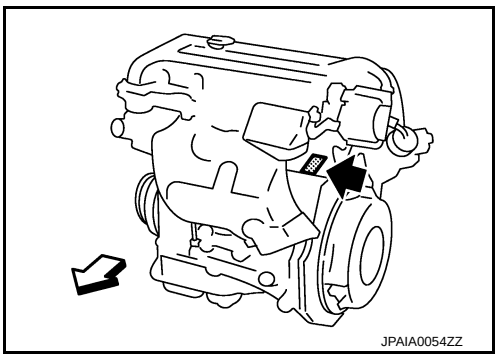
MR20DD

⇦ : Vehicle front



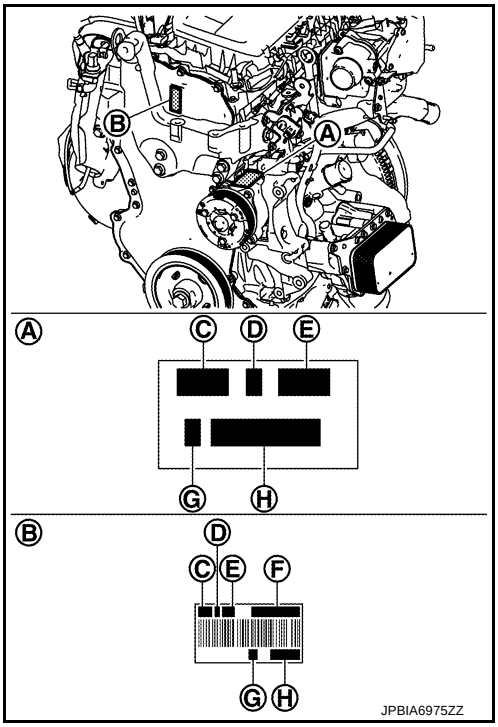
QR25DE

⇦ : Vehicle front



R9M

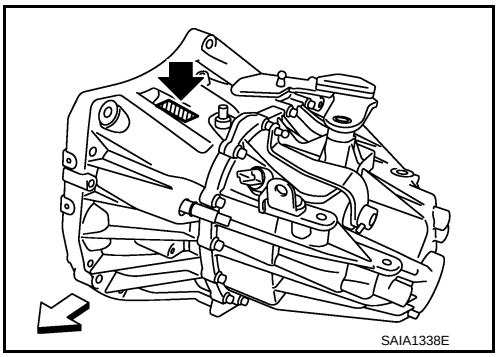
Ⓒ Engine type
Ⓓ Engine type approval letter
Ⓔ Engine type suffix
Ⓕ Engine assembly part number
Ⓖ Engine assembly plant
Ⓗ Engine fabrication number



MANUAL TRANSAXLE NUMBER

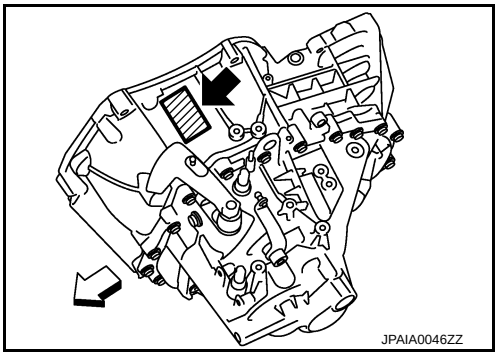
RS6F94R

⇦ : Vehicle front



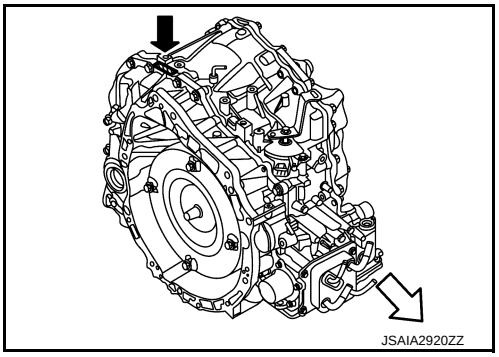
RS6F52A

⇦ : Vehicle front


JPAIA0046ZZ

CVT NUMBER

⇦ : Vehicle front


JSAIA2920ZZ

Dimensions

INFOID:0000000010727569

Unit: mm (in)

Overall length	4,640 (182.7)
Overall width	1,820 (71.7)
Overall height	1,710 (67.3) 1,715 (67.5)*1
Front tread	1,575 (62.0)
Rear tread	1,575 (62.0)
Wheelbase	2,705 (106.5)

*1: Roof rail equipped model

Wheels & Tires

INFOID:0000000010727570

Conventional	17 inch	Tire		225/65R17 102H
		Road wheel (Aluminum)	Size	17 × 7J
			Inset	45 mm (1.77 in)
		Tire		225/65R17 102H
		Road wheel (Steel)	Size	17 × 7J
			Inset	45 mm (1.77 in)
	18 inch	Tire		225/60R18 100H
		Road wheel (Aluminum)	Size	18 × 7J
			Inset	45 mm (1.77 in)
	19 inch	Tire		225/55R19 99V
		Road wheel (Aluminum)	Size	19 × 7J
			Inset	40 mm (1.57 in)

Spare	17 inch	Tire		225/65R17 102H
		Road wheel (Steel)	Size	17 × 7J
			Inset	45 mm (1.77 in)
		Tire		T155/90D17 101M
		Road wheel (Steel)	Size	17 × 4T
			Inset	30 mm (1.18 in)

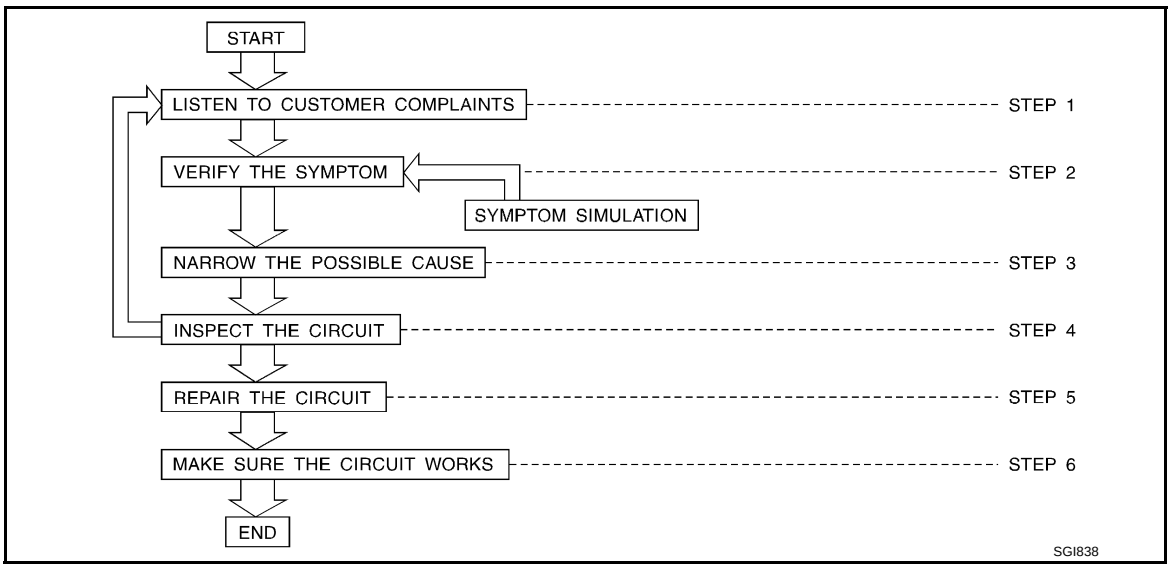
BASIC INSPECTION

SERVICE INFORMATION FOR ELECTRICAL INCIDENT

Work Flow

INFOID:0000000010727571

WORK FLOW



STEP	DESCRIPTION	
STEP 1	Get detailed information about the conditions and the environment when the incident occurred. The following are key pieces of information required to make a good analysis:	
	WHAT	Vehicle Model, Engine, Transmission/Transaxle and the System (i.e. Radio).
	WHEN	Date, Time of Day, Weather Conditions, Frequency.
	WHERE	Road Conditions, Altitude and Traffic Situation.
	HOW	System Symptoms, Operating Conditions (Other Components Interaction). Service History and if any After Market Accessories have been installed.
STEP 2	Operate the system, road test if necessary. Verify the parameter of the incident. If the problem cannot be duplicated, refer to “Incident Simulation Tests”.	
STEP 3	Get the proper diagnosis materials together including: • Power Supply Routing • System Operation Descriptions • Applicable Service Manual Sections • Check for any Service Bulletins Identify where to begin diagnosis based upon your knowledge of the system operation and the customer comments.	
STEP 4	Inspect the system for mechanical binding, loose connectors or wiring damage. Determine which circuits and components are involved and diagnose using the Power Supply Routing and Harness Layouts.	
STEP 5	Repair or replace the incident circuit or component.	
STEP 6	Operate the system in all modes. Verify the system works properly under all conditions. Check you have not inadvertently created a new incident during your diagnosis or repair steps.	

Control Units and Electrical Parts

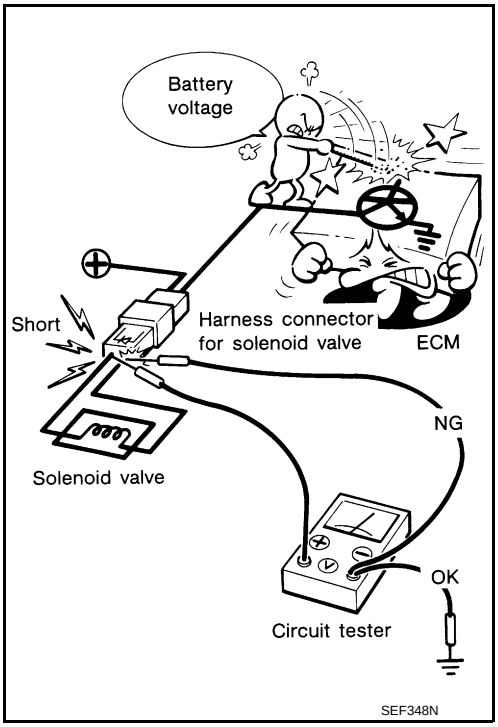
INFOID:0000000010727572

PRECAUTIONS

- Never reverse polarity of battery terminals.
- Install only parts specified for a vehicle.
- Before replacing the control unit, check the input and output and functions of the component parts.
- Do not apply excessive force when disconnecting a connector.

- Do not apply excessive shock to the control unit by dropping or hitting it.
- Be careful to prevent condensation in the control unit due to rapid temperature changes and do not let water or rain get on it. If water is found in the control unit, dry it fully and then install it in the vehicle.
- Be careful not to let oil to get on the control unit connector.
- Avoid cleaning the control unit with volatile oil.
- Do not disassemble the control unit, and do not remove the upper and lower covers.

- When using a DMM, be careful not to let test probes get close to each other to prevent the power transistor in the control unit from damaging battery voltage because of short circuiting.
- When checking input and output signals of the control unit, use the specified check adapter.



Intermittent Incident

INFOID:0000000010727573

DESCRIPTION

Sometimes the symptom is not present when the vehicle is brought in for service. If possible, re-create the conditions present at the time of the incident. Doing so may help avoid a No Trouble Found Diagnosis. The following section illustrates ways to simulate the conditions/environment under which the owner experiences an electrical incident.

The section is broken into the six following topics:

- Vehicle vibration
- Heat sensitive
- Freezing
- Water intrusion
- Electrical load
- Cold or hot start up

Get a thorough description of the incident from the customer. It is important for simulating the conditions of the problem.

VEHICLE VIBRATION

The problem may occur or become worse while driving on a rough road or when engine is vibrating (idle with A/C on). In such a case, you will want to check for a vibration related condition. Refer to the following illustration.

Connector & Harness

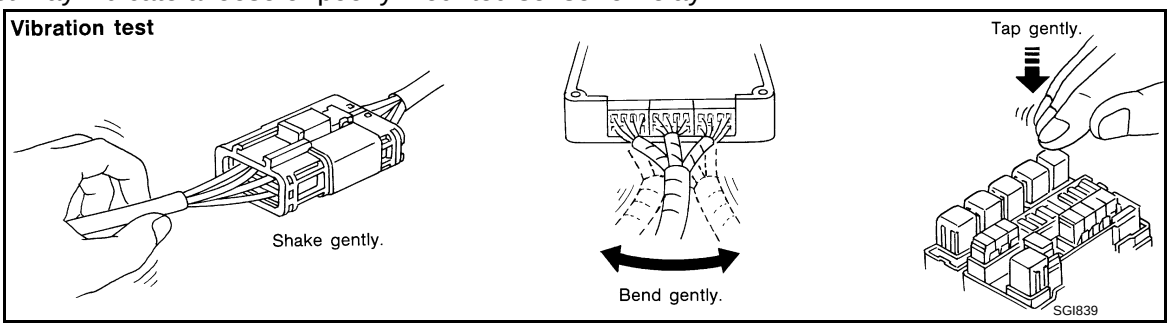
Determine which connectors and wiring harness would affect the electrical system you are inspecting. Gently shake each connector and harness while monitoring the system for the incident you are trying to duplicate. This test may indicate a loose or poor electrical connection.

Hint

Connectors can be exposed to moisture. It is possible to get a thin film of corrosion on the connector terminals. A visual inspection may not reveal this without disconnecting the connector. If the problem occurs intermittently, perhaps the problem is caused by corrosion. It is a good idea to disconnect, inspect and clean the terminals on related connectors in the system.

Sensor & Relay

Gently apply a slight vibration to sensors and relays in the system you are inspecting.
This test may indicate a loose or poorly mounted sensor or relay.



Engine Compartment

There are several reasons a vehicle or engine vibration could cause an electrical complaint. Some of the things to check for are:

- Connectors not fully seated.
- Wiring harness not long enough and is being stressed due to engine vibrations or rocking.
- Wires laying across brackets or moving components.
- Loose, dirty or corroded ground wires.
- Wires routed too close to hot components.

To inspect components under the hood, start by verifying the integrity of ground connections. (Refer to Ground Inspection described later.) First check that the system is properly grounded. Then check for loose connection by gently shaking the wiring or components as previously explained. Using the wiring diagrams inspect the wiring for continuity.

Behind the Instrument Panel

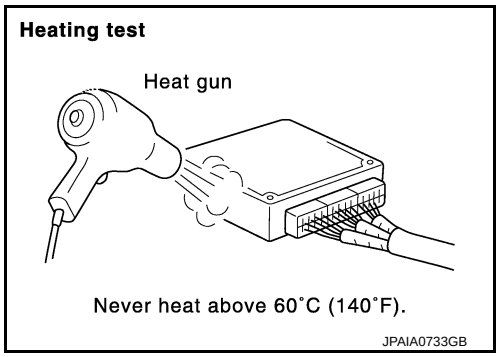
An improperly routed or improperly clamped harness can become pinched during accessory installation. Vehicle vibration can aggravate a harness which is routed along a bracket or near a screw.

Under Seating Areas

An unclamped or loose harness can cause wiring to be pinched by seat components (such as slide guides) during vehicle vibration. If the wiring runs under seating areas, inspect wire routing for possible damage or pinching.

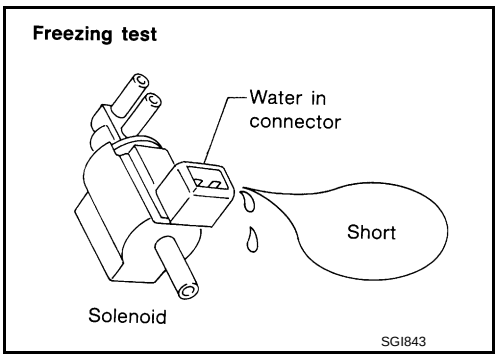
HEAT SENSITIVE

- The customer's concern may occur during hot weather or after car has sat for a short time. In such cases you will want to check for a heat sensitive condition.
- To determine if an electrical component is heat sensitive, heat the component with a heat gun or equivalent.
  CAUTION:
  Never heat components above 60°C (140°F).
- If incident occurs while heating the unit, either replace or properly insulate the component.



FREEZING

- The customer may indicate the incident goes away after the car warms up (winter time). The cause could be related to water freezing somewhere in the wiring/electrical system.
- There are two methods to check for this. The first is to arrange for the owner to leave his car overnight. Check it will get cold enough to demonstrate his complaint. Leave the car parked outside overnight. In the morning, do a quick and thorough diagnosis of those electrical components which could be affected.
- The second method is to put the suspect component into a freezer long enough for any water to freeze. Reinstall the part into the car and check for the reoccurrence of the incident. If it occurs, repair or replace the component.

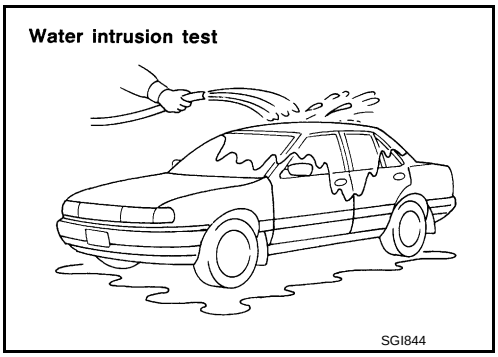


WATER INTRUSION

The incident may occur only during high humidity or in rainy/snowy weather. In such cases the incident could be caused by water intrusion on an electrical part. This can be simulated by soaking the car or running it through a car wash.

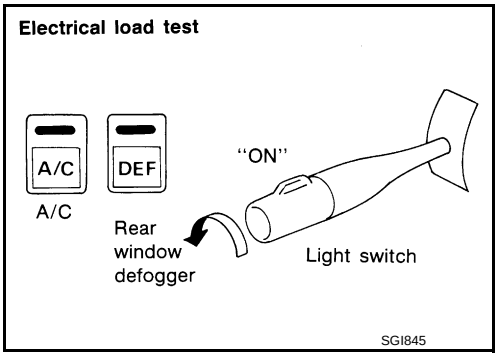
CAUTION:

Never spray water directly on any electrical components.



ELECTRICAL LOAD

The incident may be electrical load sensitive. Perform diagnosis with all accessories (including A/C, rear window defogger, radio, fog lamps) turned on.



COLD OR HOT START UP

On some occasions an electrical incident may occur only when the car is started cold, or it may occur when the car is restarted hot shortly after being turned off. In these cases you may have to keep the car overnight to make a proper diagnosis.

Circuit Inspection

INFOID:0000000010727574

DESCRIPTION

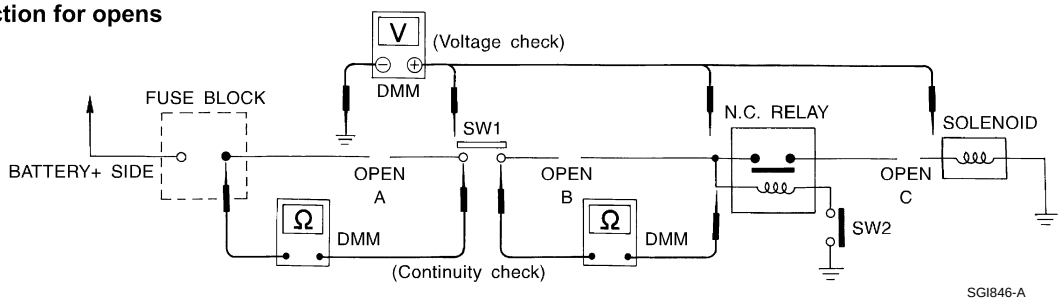
- In general, testing electrical circuits is an easy task if it is approached in a logical and organized method. Before beginning it is important to have all available information on the system to be tested. Also, get a thorough understanding of system operation. Then you will be able to use the appropriate equipment and follow the correct test procedure.
- You may have to simulate vehicle vibrations while testing electrical components. Gently shake the wiring harness or electrical component to do this.

OPEN	A circuit is open when there is no continuity through a section of the circuit.	
SHORT	There are two types of shorts.	
	• SHORT CIRCUIT	When a circuit contacts another circuit and causes the normal resistance to change.
	• SHORT TO GROUND	When a circuit contacts a ground source and grounds the circuit.

TESTING FOR “OPENS” IN THE CIRCUIT

Before you begin to diagnose and test the system, you should rough sketch a schematic of the system. This will help you to logically walk through the diagnosis process. Drawing the sketch will also reinforce your working knowledge of the system.

Inspection for opens



Continuity Check Method

The continuity check is used to find an open in the circuit. The digital multimeter (DMM) set on the resistance function will indicate an open circuit as over limit (no beep tone or no ohms symbol). Check to always start with the DMM at the highest resistance level.

To help in understanding the diagnosis of open circuits, please refer to the previous schematic.

- Disconnect the battery negative cable.
- Start at one end of the circuit and work your way to the other end. (At the fuse block in this example)
- Connect one probe of the DMM to the fuse block terminal on the load side.
- Connect the other probe to the fuse block (power) side of SW1. Little or no resistance will indicate that portion of the circuit has good continuity. If there were an open in the circuit, the DMM would indicate an over limit or infinite resistance condition. (point A)
- Connect the probes between SW1 and the relay. Little or no resistance will indicate that portion of the circuit has good continuity. If there were an open in the circuit, the DMM would indicate an over limit or infinite resistance condition. (point B)
- Connect the probes between the relay and the solenoid. Little or no resistance will indicate that portion of the circuit has good continuity. If there were an open in the circuit, the DMM would indicate an over limit or infinite resistance condition. (point C)

Any circuit can be diagnosed using the approach in the previous example.

Voltage Check Method

To help in understanding the diagnosis of open circuits please refer to the previous schematic.

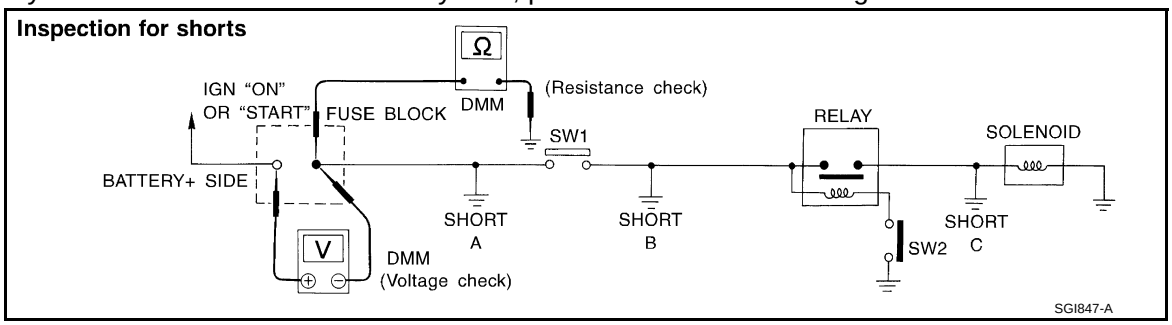
In any powered circuit, an open can be found by methodically checking the system for the presence of voltage. This is done by switching the DMM to the voltage function.

- Connect one probe of the DMM to a known good ground.
- Begin probing at one end of the circuit and work your way to the other end.
- With SW1 open, probe at SW1 to check for voltage.
  voltage: open is further down the circuit than SW1.
  no voltage: open is between fuse block and SW1 (point A).
- Close SW1 and probe at relay.
  voltage: open is further down the circuit than the relay.
  no voltage: open is between SW1 and relay (point B).
- Close the relay and probe at the solenoid.
  voltage: open is further down the circuit than the solenoid.
  no voltage: open is between relay and solenoid (point C).

Any powered circuit can be diagnosed using the approach in the previous example.

TESTING FOR “SHORTS” IN THE CIRCUIT

To simplify the discussion of shorts in the system, please refer to the following schematic.



Resistance Check Method

- Disconnect the battery negative cable and remove the blown fuse.
- Disconnect all loads (SW1 open, relay disconnected and solenoid disconnected) powered through the fuse.
- Connect one probe of the DMM to the load side of the fuse terminal. Connect the other probe to a known good ground.
- With SW1 open, check for continuity.
  continuity: short is between fuse terminal and SW1 (point A).
  no continuity: short is further down the circuit than SW1.
- Close SW1 and disconnect the relay. Put probes at the load side of fuse terminal and a known good ground. Then, check for continuity.
  continuity: short is between SW1 and the relay (point B).
  no continuity: short is further down the circuit than the relay.
- Close SW1 and jump the relay contacts with jumper wire. Put probes at the load side of fuse terminal and a known good ground. Then, check for continuity.
  continuity: short is between relay and solenoid (point C).
  no continuity: check solenoid, retrace steps.

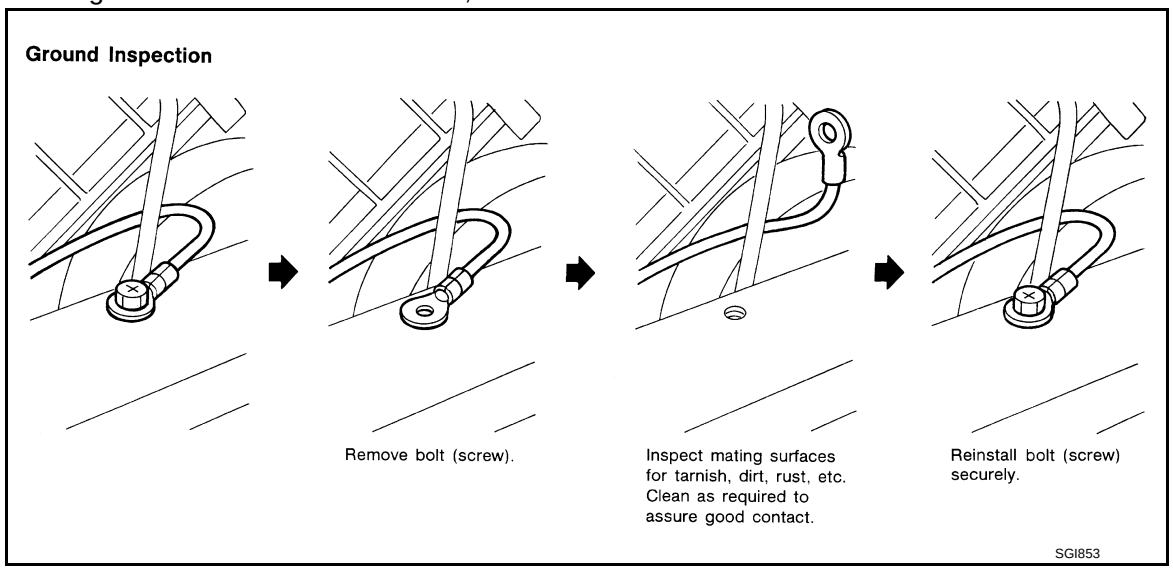
Voltage Check Method

- Remove the blown fuse and disconnect all loads (i.e. SW1 open, relay disconnected and solenoid disconnected) powered through the fuse.
- Turn the ignition switch to the ON or START position. Verify battery voltage at the battery + side of the fuse terminal (one lead on the battery + terminal side of the fuse block and one lead on a known good ground).
- With SW1 open and the DMM leads across both fuse terminals, check for voltage.
  voltage: short is between fuse block and SW1 (point A).
  no voltage: short is further down the circuit than SW1.
- With SW1 closed, relay and solenoid disconnected and the DMM leads across both fuse terminals, check for voltage.
  voltage: short is between SW1 and the relay (point B).
  no voltage: short is further down the circuit than the relay.
- With SW1 closed, relay contacts jumped with fused jumper wire check for voltage.
  voltage: short is down the circuit of the relay or between the relay and the disconnected solenoid (point C).
  no voltage: retrace steps and check power to fuse block.

GROUND INSPECTION

- Ground connections are very important to the proper operation of electrical and electronic circuits. Ground connections are often exposed to moisture, dirt and other corrosive elements. The corrosion (rust) can become an unwanted resistance. This unwanted resistance can change the way a circuit works.
- Electronically controlled circuits are very sensitive to proper grounding. A loose or corroded ground can drastically affect an electronically controlled circuit. A poor or corroded ground can easily affect the circuit. Even when the ground connection looks clean, there can be a thin film of rust on the surface.
- When inspecting a ground connection follow these rules:
- Remove the ground bolt or screw.
- Inspect all mating surfaces for tarnish, dirt, rust, etc.
- Clean as required to assure good contact.
- Reinstall bolt or screw securely.
- Inspect for "add-on" accessories which may be interfering with the ground circuit.
- If several wires are crimped into one ground eyelet terminal, check for proper crimps. Check all of the wires are clean, securely fastened and providing a good ground path. If multiple wires are cased in one eyelet check no ground wires have excess wire insulation.

- For detailed ground distribution information, refer to “Ground Distribution” in PG section.



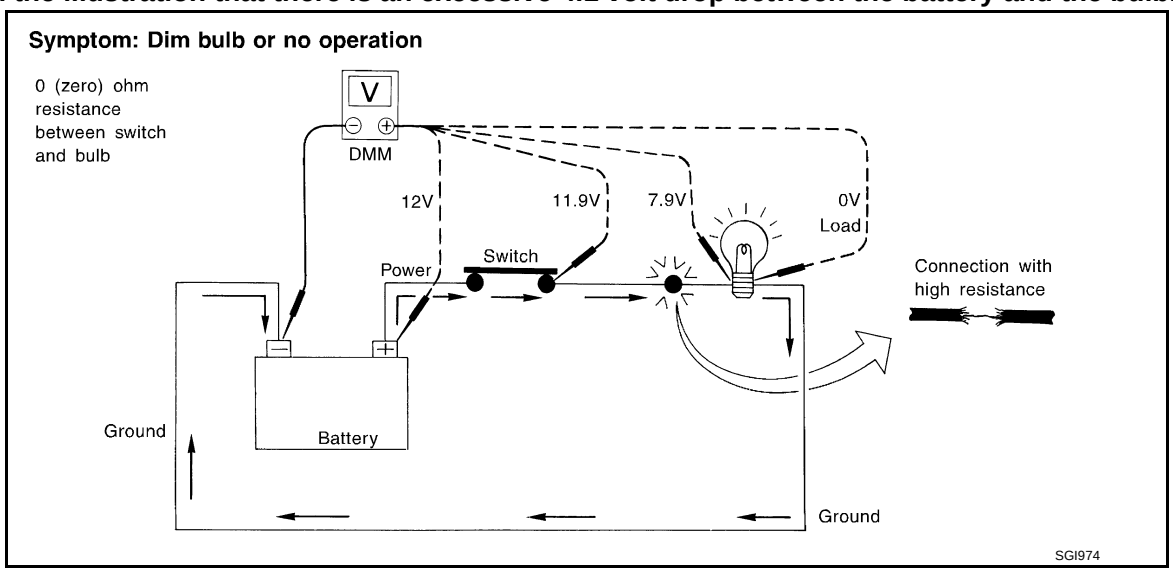
VOLTAGE DROP TESTS

- Voltage drop tests are often used to find components or circuits which have excessive resistance. A voltage drop in a circuit is caused by a resistance when the circuit is in operation.
- Check the wire in the illustration. When measuring resistance with DMM, contact by a single strand of wire will give reading of 0 ohms. This would indicate a good circuit. When the circuit operates, this single strand of wire is not able to carry the current. The single strand will have a high resistance to the current. This will be picked up as a slight voltage drop.
- Unwanted resistance can be caused by many situations as follows:
- Undersized wiring (single strand example)
- Corrosion on switch contacts
- Loose wire connections or splices.
- If repairs are needed always use wire that is of the same or larger gauge.

Measuring Voltage Drop — Accumulated Method

- Connect the DMM across the connector or part of the circuit you want to check. The positive lead of the DMM should be closer to power and the negative lead closer to ground.
- Operate the circuit.
- The DMM will indicate how many volts are being used to “push” current through that part of the circuit.

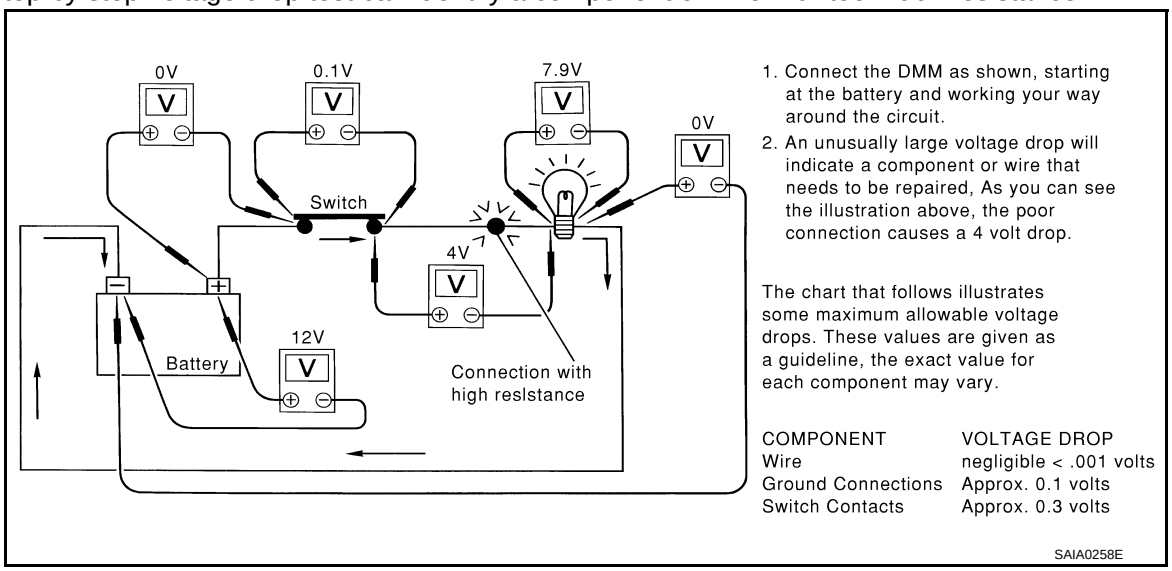
Note in the illustration that there is an excessive 4.1 volt drop between the battery and the bulb.



Measuring Voltage Drop — Step-by-Step

- The step-by-step method is most useful for isolating excessive drops in low voltage systems (such as those in “Computer Controlled Systems”).
- Circuits in the “Computer Controlled System” operate on very low amperage.

- The (Computer Controlled) system operations can be adversely affected by any variation in resistance in the system. Such resistance variation may be caused by poor connection, improper installation, improper wire gauge or corrosion.
- The step by step voltage drop test can identify a component or wire with too much resistance.

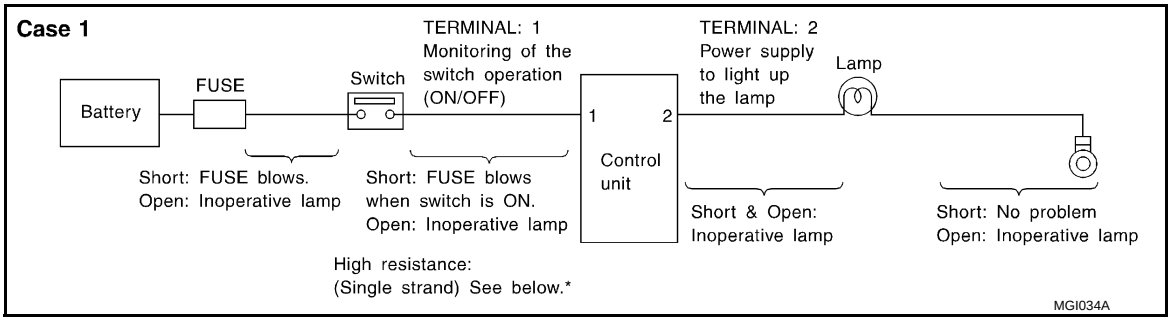


CONTROL UNIT CIRCUIT TEST

System Description

- When the switch is ON, the control unit lights up the lamp.

CASE 1

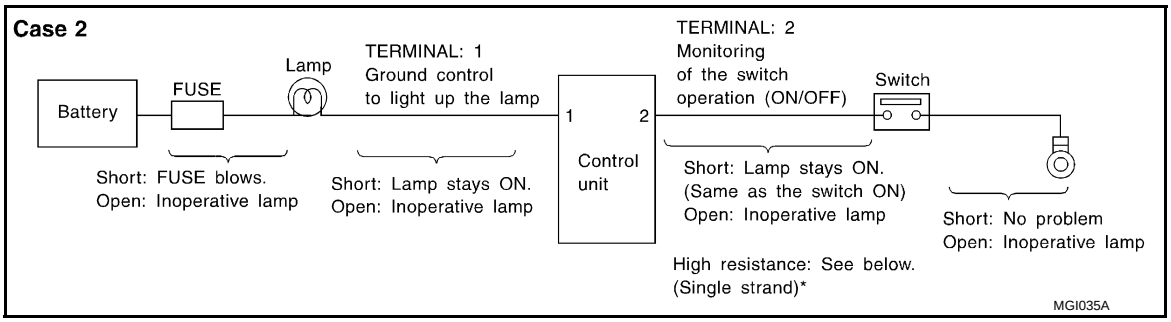


INPUT-OUTPUT VOLTAGE CHART

Terminal No.		Description		Condition	Value (Approx.)	In case of high resistance such as single strand (V) *
+	–	Signal name	Input/ Output			
1	Body ground	Switch	Input	Switch ON	Battery voltage	Lower than battery voltage Approx. 8 (Example)
				Switch OFF	0 V	Approx. 0
2	Body ground	Lamp	Output	Switch ON	Battery voltage	Approx. 0 (Inoperative lamp)
				Switch OFF	0 V	Approx. 0

- The voltage value is based on the body ground.
- *: If high resistance exists in the switch side circuit (caused by a single strand), terminal 1 does not detect battery voltage. Control unit does not detect the switch is ON even if the switch does not turn ON. Therefore, the control unit does not supply power to light up the lamp.

CASE 2



INPUT-OUTPUT VOLTAGE CHART

Terminal No.		Description		Condition	Value (Approx.)	In case of high resistance such as single strand (V) *
+	–	Signal name	Input/ Output			
1	Body ground	Lamp	Output	Switch ON	0 V	Battery voltage (Inoperative lamp)
				Switch OFF	Battery voltage	Battery voltage
2	Body ground	Switch	Input	Switch ON	0 V	Higher than 0 Approx. 4 (Example)
				Switch OFF	5 V	Approx. 5

- The voltage value is based on the body ground.
- *: If high resistance exists in the switch side circuit (caused by a single strand), terminal 2 does not detect approx. 0 V. Control unit does not detect the switch is ON even if the switch does not turn ON. Therefore, the control unit does not control ground to light up the lamp.

CONSULT/GST CHECKING SYSTEM

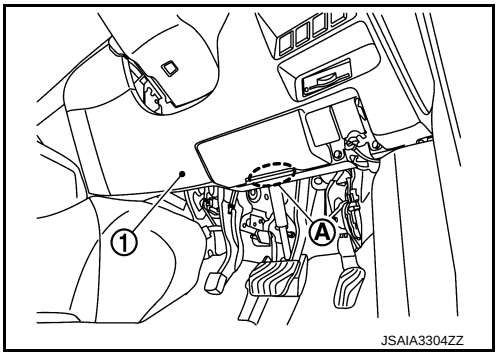
Description

INFOID:0000000010727575

- When CONSULT/GST is connected with a data link connector Ⓐ equipped on the vehicle side, it will communicate with the control unit equipped in the vehicle and then enable various kinds of diagnostic tests.

  ① : Instrument lower panel

- Refer to CONSULT Software Operation Manual for more information.



CONSULT Function and System Application*1

INFOID:0000000010727576

FUNCTION

Mode	Function
All DTC Reading	Display all DTCs or diagnostic items that all ECUs are recording and judging.
Work Support	This mode enables a technician to adjust some devices faster and more accurately.
Self Diagnostic Results	Retrieve DTC from ECU and display diagnostic items.
Data Monitor	Monitor the input/output signal of the control unit in real time.
CAN Diagnosis	This mode displays a network diagnosis result about CAN by diagram.
CAN Diagnosis Support Monitor	It monitors the status of CAN communication.
Active Test	Send the drive signal from CONSULT to the actuator. The operation check can be performed.
ECU Identification	Display the ECU identification number (part number etc.) of the selected system.
Configuration	Function to READ/WRITE vehicle configuration.
SRT&P-DTC Confirmation	The state of System Readiness Test (SRT) items, the presence or absence of permanent DTC*, and driving conditions can be checked.
DTC work support	DTC reproduction procedure can be performed speedily and precisely.
Others	Other results or histories, etc. that are recorded in ECU are displayed.

*: Permanent DTC is not applied for regions where it is not mandated.

SYSTEM APPLICATION*1

System	All DTC Reading	Work Support	Self Diagnostic Results	Data Monitor	CAN Diagnosis	CAN Diagnosis Support Monitor	Active Test	ECU Identification	Configuration	SRT&P-DTC Confirmation	DTC work support	Others
ENGINE	x	x	x	x	x	x	x	x	x*3	x*2, *4	x*4	-
TRANSMISSION	x	x	x	x	x	x	-	x	-	x*2	-	• CALIB DATA
ALL MODE AWD / 4WD	x	x	x	x	x	x	x	x	-	-	-	-
AIR BAG	x	-	x	x	x	-	-	x	x	-	-	• TROUBLE DIAG RECORD
METER / M&A	x	x	x	x	x	x	-	-	-	-	-	• Warning History

System	All DTC Reading	Work Support	Self Diagnostic Results	Data Monitor	CAN Diagnosis	CAN Diagnosis Support Monitor	Active Test	ECU Identification	Configuration	SRT&P-DTC Confirmation	DTC work support	Others
BCM	x	x	x	x	x	x	x	x	x	-	-	-
IPDM E/R	x	x	x	x	x	x	x	x	x	-	-	-
AUTOMATIC BACK DOOR	x	x	x	x	x	x	-	x	-	-	-	-
EPS/DAST3	x	-	x	x	x	x	-	x	-	-	-	-
HVAC	-	x	x	x	x	x	x	x	-	-	-	-
ABS	x	x	x	x	x	x	x	x	x	-	-	-
EHS / PKB	x	x	x	x	x	x	-	x	x	-	-	-
CHASSIS CONTROL	x	-	x	x	x	x	x	x	x	-	-	-
AIR PRESSURE MONITOR	x	x	x	x	-	-	x	x	-	-	-	-
MULTI AV	-	-	x	x	x	x	-	x	x	-	-	-
SONAR	x	x	x	x	x	x	x	x	x	-	-	-
AVM	x	x	x	x	x	x	x	x	x	-	-	-
LANE CAMERA	x	x	x	x	x	x	-	x	-	-	-	-
LASER / RADAR	x	x	x	x	x	x	x	x	-	-	-	-

x: Applicable

*1: If GST application is equipped, functions in accordance with SAE J1979 and ISO 15031-5 can be used.

*2: Permanent DTC is not applied for regions where it is not mandated.

*3: For R9M engine models

*4: Except for R9M engine models

CONSULT/GST Data Link Connector (DLC) Circuit

INFOID:0000000010727577

INSPECTION PROCEDURE

If the CONSULT/GST cannot diagnose the system properly, check the following items.

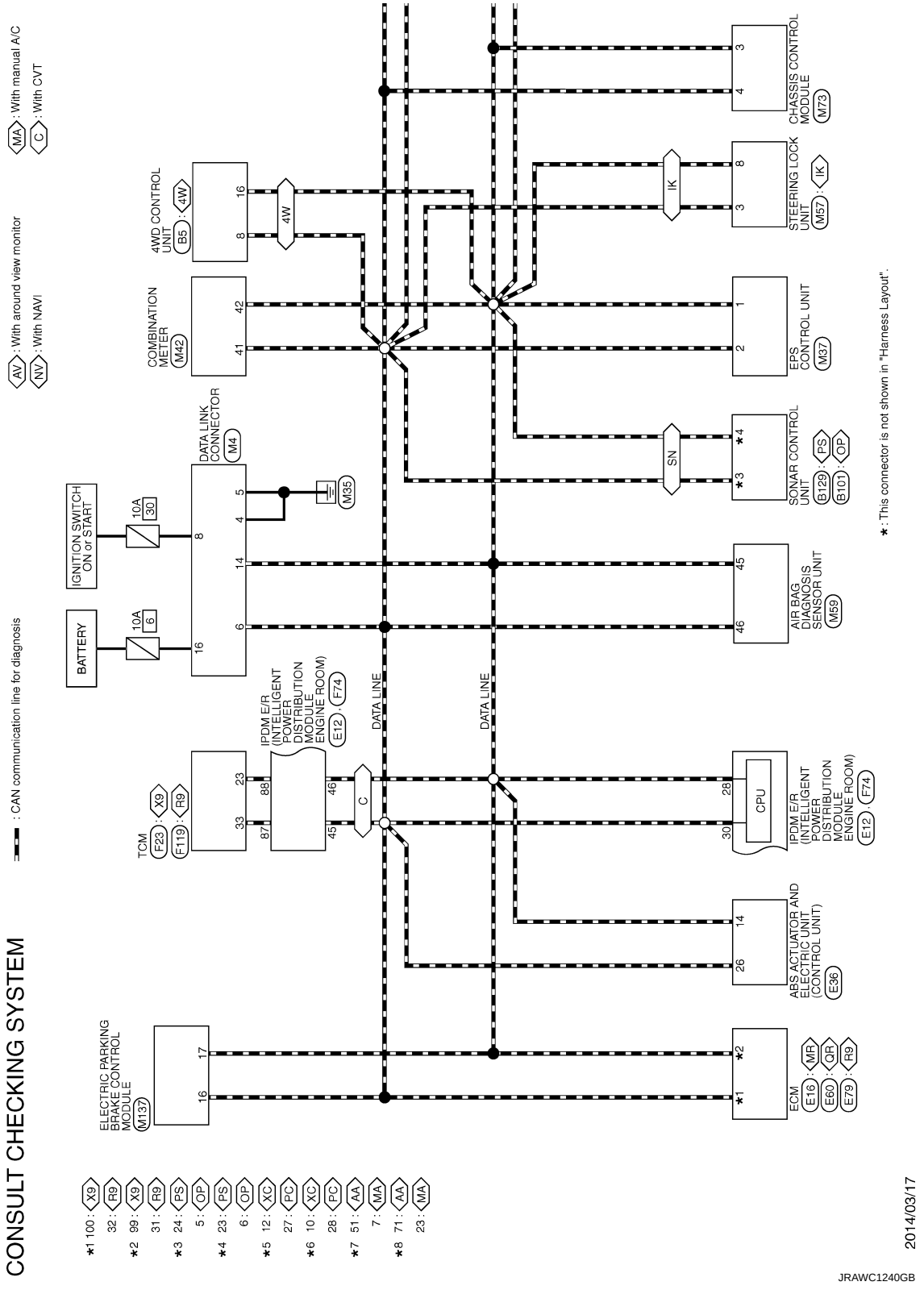
Symptom	Check item
CONSULT cannot access any system.	• CONSULT DLC power supply circuit (Terminal 8 and 16) and ground circuit (Terminal 4 and 5)
CONSULT cannot access individual system. (Other systems can be accessed.)	• Power supply and ground circuit for the control unit of the system (For detailed circuit, refer to wiring diagram for each system.) • Open or short circuit between the system and CONSULT DLC (For detailed circuit, refer to wiring diagram for each system.) • Open or short circuit CAN communication line. Refer to LAN-17, "Trouble Diagnosis Flow Chart".

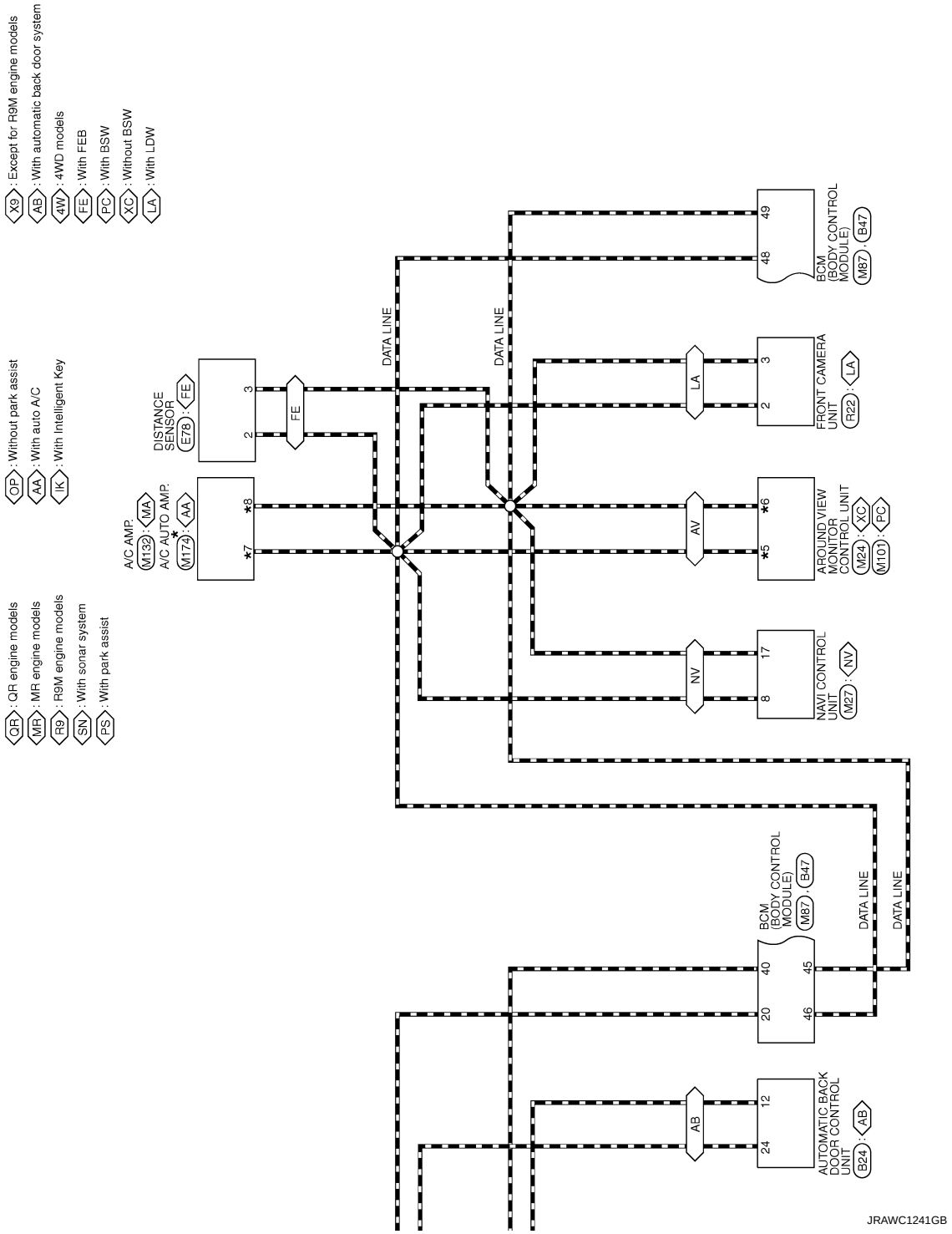
NOTE:

The DDL1 and DDL2 circuits from DLC pins 12, 13, 14 and 15 may be connected to more than one system. A short in a DDL circuit connected to a control unit in one system may affect CONSULT access to other systems. If the GST cannot operate properly, check the circuit based on the information of SAE J1962 and ISO 15031-3.

Wiring Diagram - CONSULT/GST CHECKING SYSTEM -

INFOID:0000000010727578




X9 : Except for R9M engine models
AB : With automatic back door system
4W : 4WD models
FE : With FEB
PC : With BSW
XC : Without BSW
LA : With LDW
OP : Without park assist
AA : With auto A/C
IK : With Intelligent Key
QR : QR engine models
MR : MR engine models
R9 : R9M engine models
SN : With sonar system
PS : With park assist
DISTANCE SENSOR E78 : FE
A/C AMP. M132 : MA
A/C AUTO AMP. M174 : AA
DATA LINE
FE
LA
AV
NV
AB
BCM (BODY CONTROL MODULE) M87 : B47
FRONT CAMERA UNIT R22 : LA
AROUND VIEW MONITOR CONTROL UNIT M24 : XC M101 : PC
NAVI CONTROL UNIT M27 : NV
AUTOMATIC BACK DOOR CONTROL UNIT B24 : AB
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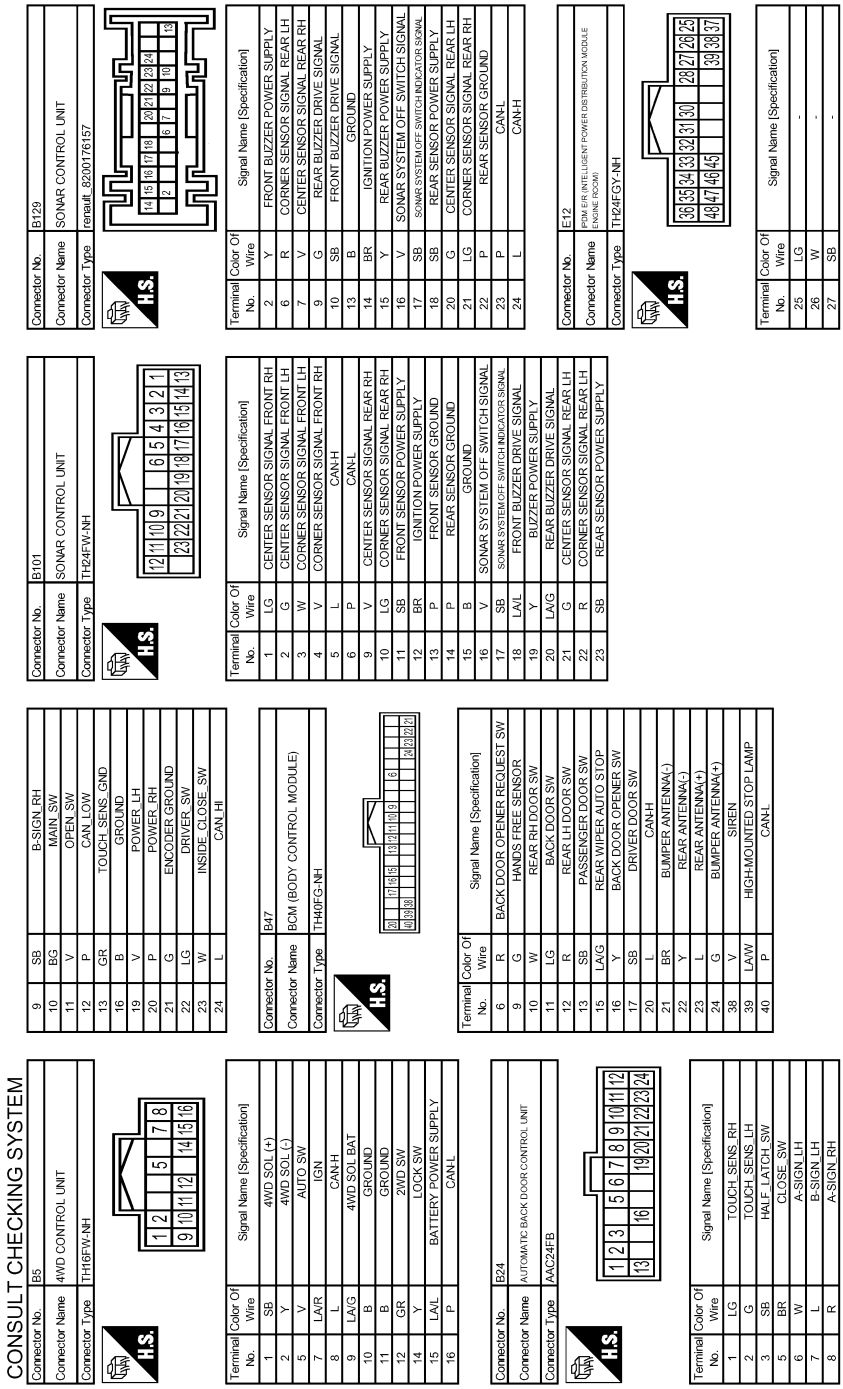

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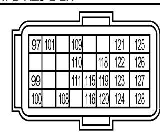
CONSULT CHECKING SYSTEM

28	P	-
30	L	-
31	G	-
32	B	-
33	BG	-
34	LG	-
35	V	-
36	Y	-
37	B	-
38	GR	-
39	BR	-
45	L	-
46	P	-
47	W	-
48	R	-

Connector No.	E16
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH

H.S.

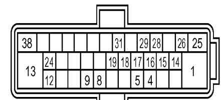


Terminal No.	Color Of Wire	Signal Name [Specification]
97	W	BAROMETRIC PRESSURE SENSOR
99	P	CAN-L
100	L	CAN-H
101	Y	SENSOR POWER SUPPLY
108	R	CLUTCH PEDAL POSITION SWITCH
109	LG	IGNITION SWITCH
110	G	ASCD STEERING SWITCH
111	BR	SENSOR GROUND
115	V	STOP LAMP SWITCH
116	GR	BRAKE PEDAL POSITION SWITCH
118	SB	SENSOR POWER SUPPLY
119	Y	ACCELERATOR PEDAL POSITION SENSOR 2
120	LG	SENSOR GROUND
121	BR	POWER SUPPLY FOR ECM
122	V	SENSOR POWER SUPPLY
123	B	ECM GROUND
124	R	SENSOR GROUND
125	B	ECM GROUND
126	GR	ACCELERATOR PEDAL POSITION SENSOR 1

127	R	SENSOR GROUND
128	B	ECM GROUND

Connector No.	E36
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type	BEZ34FB-BHY2-BJZ2-RH

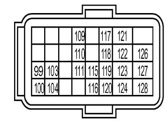
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	MOTOR POWER SUPPLY
4	SB	FR RH WHEEL SENSOR SIGNAL
5	V	BRAKE VACUUM SENSOR POWER SUPPLY
8	P	FR LH WHEEL SENSOR SIGNAL
9	Y	hill decent control SWITCH SIGNAL
12	LG	BRAKE VACUUM SENSOR SIGNAL
13	B	GROUND (MOTOR)
14	P	CAN-L
15	BR	VDC OFF SWITCH SIGNAL
16	R	FR RH WHEEL SENSOR POWER SUPPLY
17	Y	RR RH WHEEL SENSOR POWER SUPPLY
18	G	RR LH WHEEL SENSOR SIGNAL
19	W	FR LH WHEEL SENSOR POWER SUPPLY
24	SHIELD	BRAKE VACUUM SENSOR GROUND
25	BR	VALVE POWER SUPPLY
26	L	CAN-H
28	GR	IGNITION POWER SUPPLY
29	LG	RR RH WHEEL SENSOR SIGNAL
31	BR	RR LH WHEEL SENSOR POWER SUPPLY
38	B	GROUND (VALVE)

Connector No.	E60
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
99	P	CAN COMMUNICATION LINE (CAN-L)
100	L	CAN COMMUNICATION LINE (CAN-H)
103	Y	REFRIGERANT PRESSURE SENSOR
104	R	SENSOR POWER SUPPLY
109	LG	IGNITION SWITCH
110	G	ASCD STEERING SWITCH
111	BR	SENSOR GROUND
115	V	STOP LAMP SWITCH
116	GR	BRAKE PEDAL POSITION SWITCH
117	W	PNP SIGNAL
118	SB	SENSOR POWER SUPPLY
119	Y	ACCELERATOR PEDAL POSITION SENSOR 2
120	LG	SENSOR GROUND
121	BR	POWER SUPPLY FOR ECM
122	V	SENSOR POWER SUPPLY
123	BR	ECM GROUND
124	W	SENSOR GROUND
126	GR	ACCELERATOR PEDAL POSITION SENSOR 1
127	R	SENSOR GROUND
128	BR	ECM GROUND

Connector No.	E78
Connector Name	DISTANCE SENSOR
Connector Type	AAZ08FB

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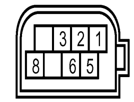
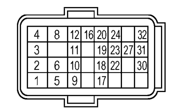


Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	L	CAN-H
3	R	CAN-L
5	L	CHASSIS COMM-H
6	W	CHASSIS COMM-L
8	P	IGNITION

Connector No.	E79
Connector Name	ECM
Connector Type	RH24FB-RZ8-R-RH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	ECM GROUND
2	W	ACCELERATOR PEDAL POSITION SENSOR 1
3	Y	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
4	B	ECM GROUND
5	L	POWER SUPPLY FOR ECM
6	G	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
8	B	ECM GROUND
9	L	FUEL HEATER AND WATER IN FUEL LEVEL SENSOR
10	L	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
11	V	ACCELERATOR PEDAL POSITION SENSOR 2
12	P	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
16	BG	STOP LAMP SWITCH [With M/T]
16	R	BRAKE PEDAL POSITION SWITCH [With CVT]
17	LG	IGNITION SWITCH

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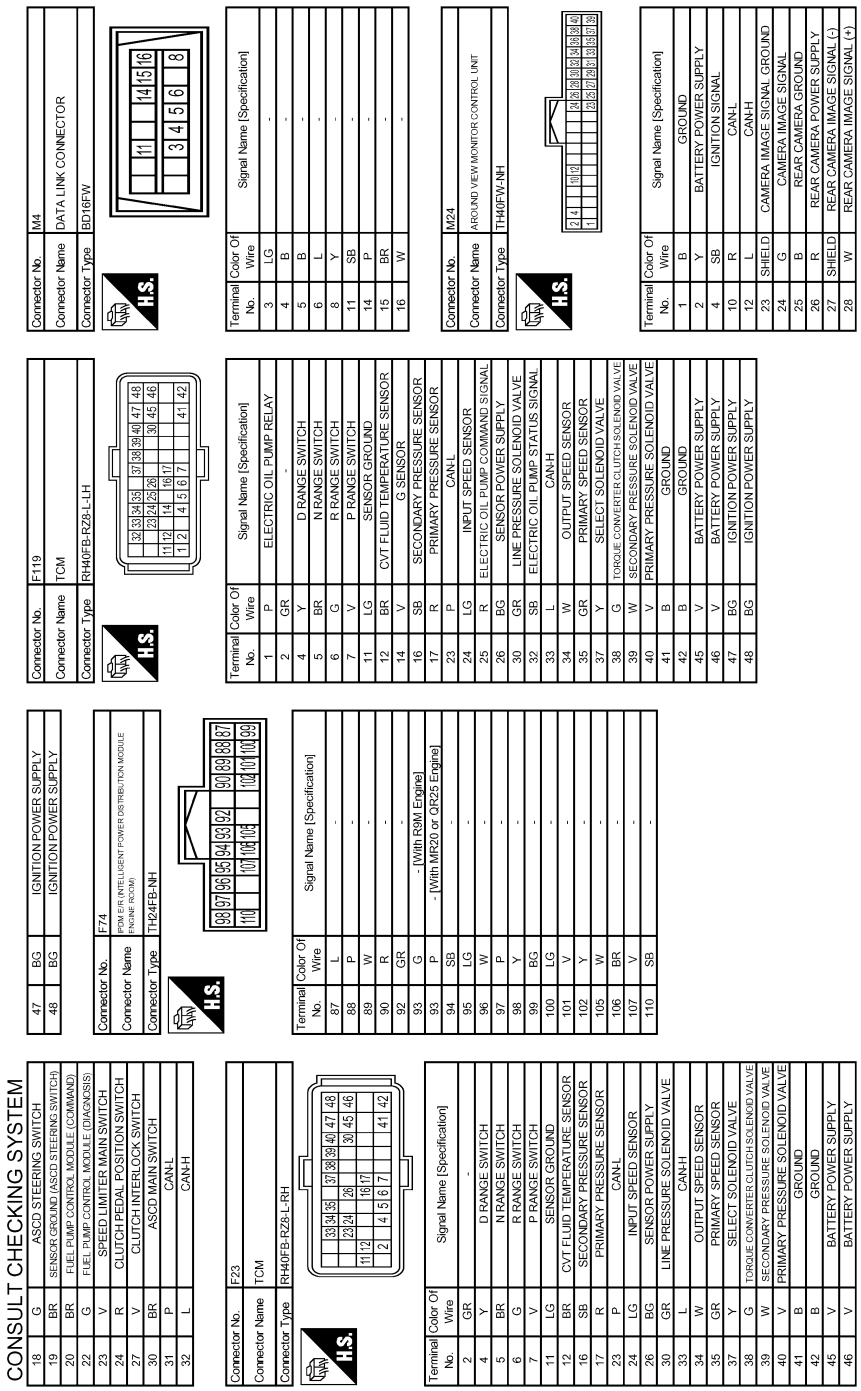

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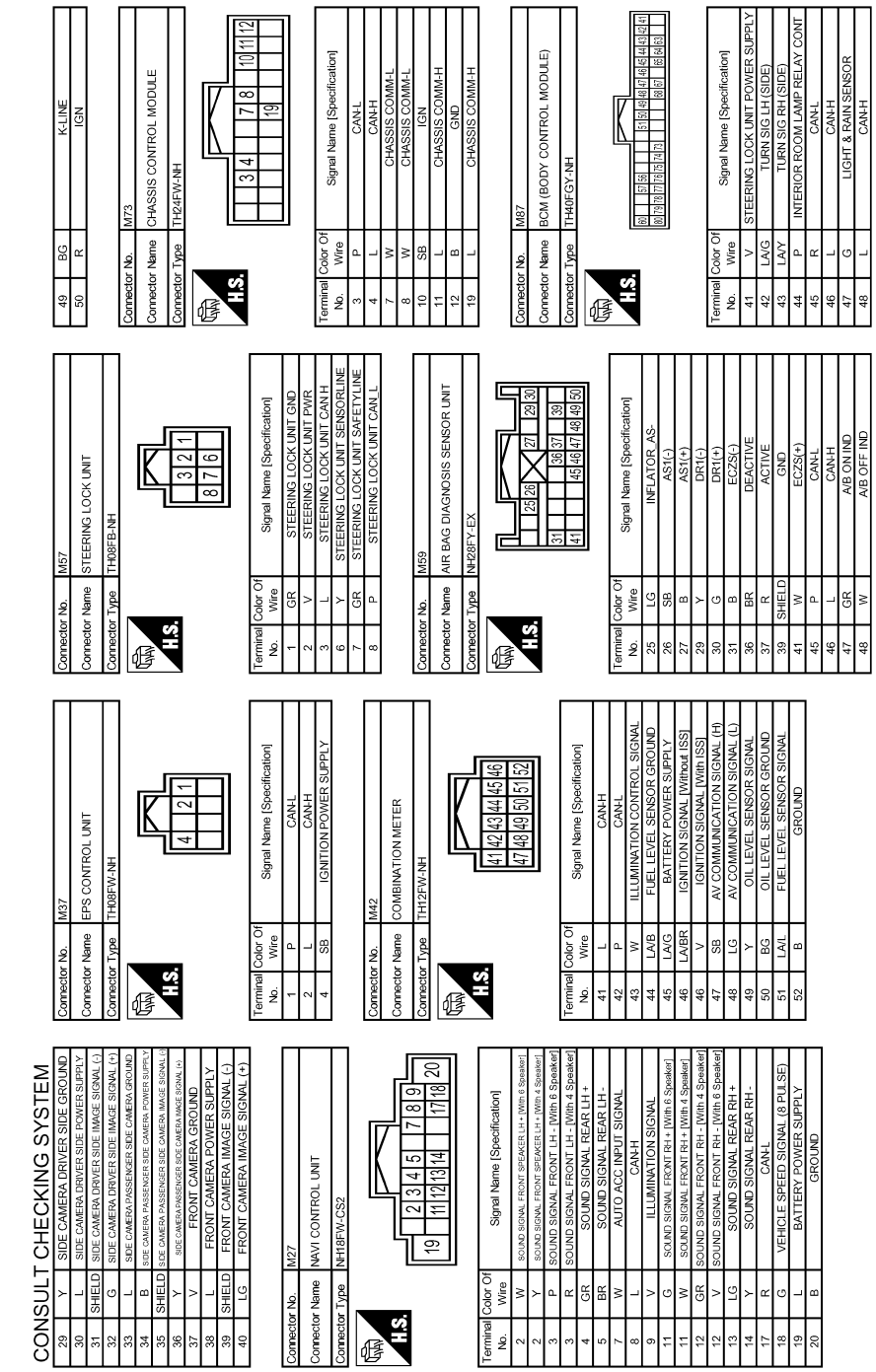

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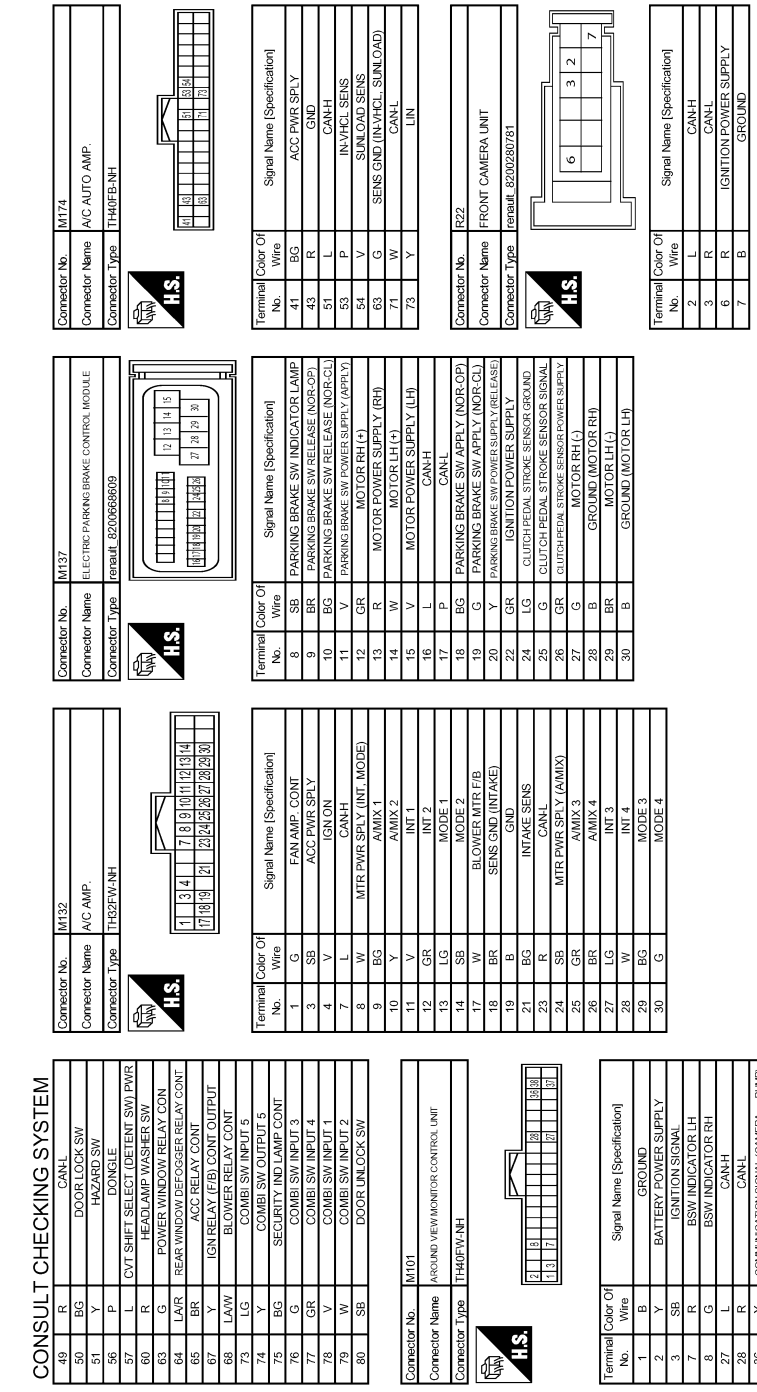

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INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Required Procedure After Battery Disconnection

INFOID:0000000010727579

SYSTEM	ITEM	REFERENCE
Automatic air conditioning system*	Temperature setting trimmer	—
	Foot position setting trimmer	—
	Inlet port memory function (FRE)	—
	Inlet port memory function (REC)	—
	Setting of target evaporator temperature upper limit value	—
Automatic drive positioner*	Automatic drive positioner system	—
Power window control	Power window control system	PWC-31, "Description"
Sunroof system*	Sunroof system	—
Sunshade system*	Sunshade system	—
Rear view monitor	Rear view monitor predictive course line center position adjustment	—
Around view monitor	Predictive course line center position adjustment	—
Automatic back door system	Automatic back door system	DLK-115, "Description"
Engine oil level read*	Engine oil level read	—

*: Not equipped.