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INFINITI®

G37 Sedan

MODEL V36 SERIES

QUICK REFERENCE INDEX

Relation between Illustrations and Descriptions

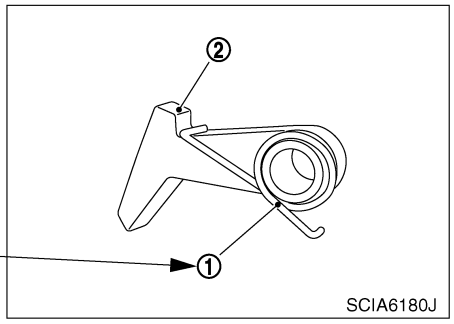
INFOID:0000000004245362

The following sample explains the relationship between the part description in an illustration, the part name in the text and the service procedures.

< Example 1 >

1. Remove return spring (1) from parking pawl (2).

The identifier number of the part name in the text is consistent with the identifier part number in the illustration.

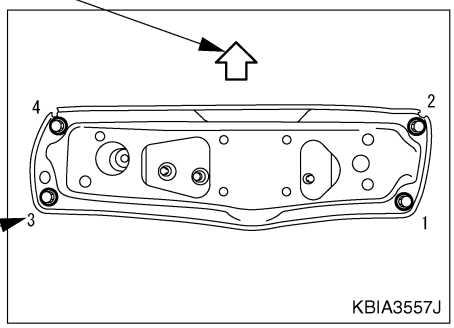


Direction mark

< Example 2 >

- ⇨ : Vehicle front
- Tighten rear member mounting bolts following the numerical order shown in the illustration.
- Note : View upward

The numbers in the illustration are consistent with the service operation instructions.



SAIA0519E

Components

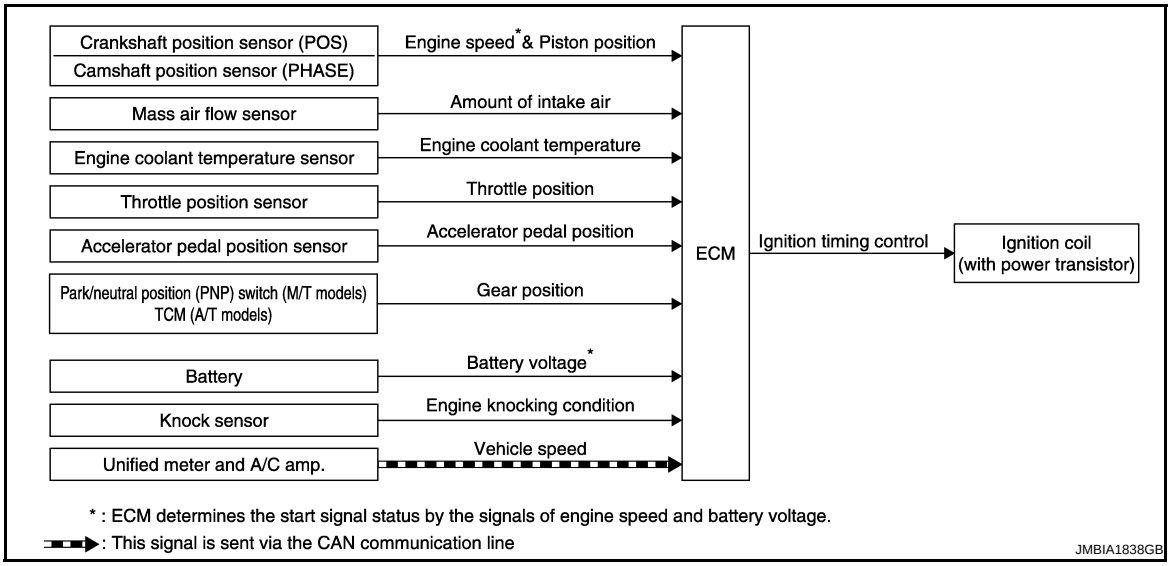
INFOID:0000000004245363

- **THE LARGE ILLUSTRATIONS** are exploded views (see the following) and contain tightening torques, lubrication points, section number of the **PARTS CATALOG** (e.g. SEC. 440) and other information necessary to perform repairs.
  The illustrations should be used in reference to service matters only. When ordering parts, refer to the appropriate **PARTS CATALOG**.
  Components shown in an illustration may be identified by a circled number. When this style of illustration is used, the text description of the components will follow the illustration.

ELECTRIC IGNITION SYSTEM

System Diagram

INFOID:0000000004476527



System Description

INFOID:0000000004476528

INPUT/OUTPUT SIGNAL CHART

Sensor	Input Signal to ECM	ECM function	Actuator
Crankshaft position sensor (POS)	Engine speed*2 Piston position	Ignition timing control	Ignition coil (with power transistor)
Camshaft position sensor (PHASE)			
Mass air flow sensor	Amount of intake air		
Engine coolant temperature sensor	Engine coolant temperature		
Throttle position sensor	Throttle position		
Accelerator pedal position sensor	Accelerator pedal position		
Park/neutral position (PNP) switch (M/T models) TCM (A/T models)	Gear position		
Battery	Battery voltage*2		
Knock sensor	Engine knocking		
Unified meter and A/C amp.	Vehicle speed*1		

*1: This signal is sent to the ECM via the CAN communication line.

*2: ECM determines the start signal status by the signals of engine speed and battery voltage.

SYSTEM DESCRIPTION

Ignition order: 1 - 2 - 3 - 4 - 5 - 6

The ignition timing is controlled by the ECM to maintain the best air-fuel ratio for every running condition of the engine. The ignition timing data is stored in the ECM.

The ECM receives information such as the injection pulse width and camshaft position sensor (PHASE) signal. Computing this information, ignition signals are transmitted to the power transistor.

During the following conditions, the ignition timing is revised by the ECM according to the other data stored in the ECM.

- At starting
- During warm-up
- At idle
- At low battery voltage
- During acceleration

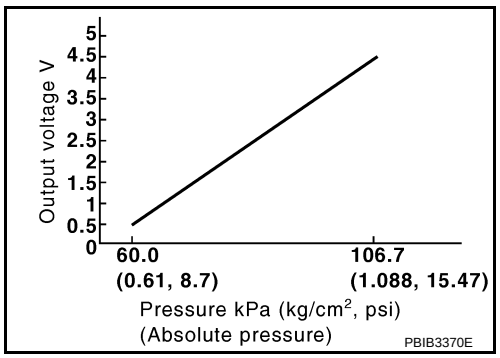
The knock sensor retard system is designed only for emergencies. The basic ignition timing is programmed within the anti-knocking zone, if recommended fuel is used under dry conditions. The retard system does not

P0451 EVAP CONTROL SYSTEM PRESSURE SENSOR

Description

INFOID:0000000004673221

The EVAP control system pressure sensor detects pressure in the purge line. The sensor output voltage to the ECM increases as pressure increases.



DTC Logic

INFOID:0000000004673222

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P0451	EVAP control system pressure sensor performance	ECM detects a sloshing signal from the EVAP control system pressure sensor	• Harness or connectors (EVAP control system pressure sensor circuit is shorted.) [CKP sensor (POS) circuit is shorted.] (APP sensor 2 circuit is shorted.) (Refrigerant pressure sensor circuit is shorted.) (Brake booster pressure sensor circuit is shorted) • EVAP control system pressure sensor • Crankshaft position sensor (POS) • Accelerator pedal position sensor • Refrigerant pressure sensor • Brake booster pressure sensor

DTC CONFIRMATION PROCEDURE

1.PRECONDITIONING

If DTC Confirmation Procedure has been previously conducted, always perform the following procedure before conducting the next test.

1. Turn ignition switch OFF and wait at least 10 seconds.
2. Turn ignition switch ON.
3. Turn ignition switch OFF and wait at least 10 seconds.

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch OFF and wait at least 10 seconds.
2. Start engine and wait at least 40 seconds.
   NOTE:
   Do not depress accelerator pedal even slightly.
3. Check 1st trip DTC.

Is 1st trip DTC detected?

YES >> Go to EC-313, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000004673223

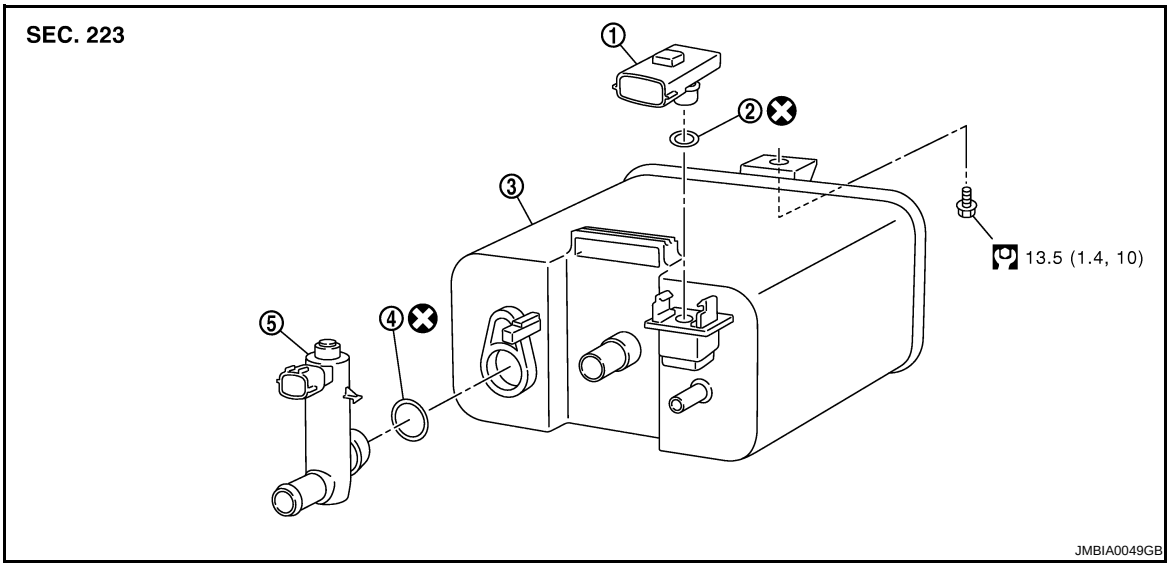
1.CHECK GROUND CONNECTION

REMOVAL AND INSTALLATION

EVAP CANISTER

Exploded View

INFOID:0000000004476993



1. EVAP canister system pressure sensor
2. O-ring
3. EVAP canister
4. O-ring
5. EVAP canister vent control valve

Refer to GI-3, "Contents" for symbols not described on the above.

Removal and Installation

INFOID:0000000004476994

REMOVAL

1. Lift up the vehicle.
2. Remove EVAP canister fixing bolt.
3. Remove EVAP canister.

NOTE:
The EVAP canister vent control valve and EVAP canister system pressure sensor can be removed without removing the EVAP canister.

INSTALLATION

Install in the reverse order of removal.

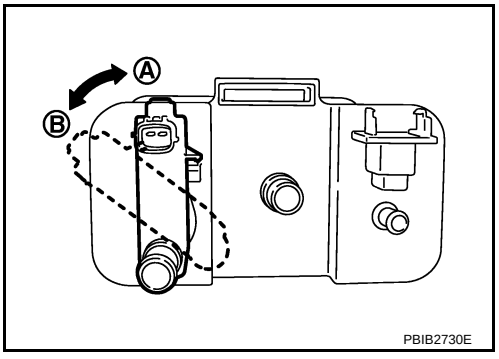
NOTE:
Tighten EVAP canister fixing bolt to the specified torque.

DISASSEMBLY

1. Turn EVAP canister vent control valve counterclockwise.

   A : Lock
   B : Unlock

2. Remove the EVAP canister vent control valve.



1. Final drive assembly
2. Side oil seal
3. Side flange

A. Oil seal lip

⇦: Vehicle front

: Apply gear oil.

Refer to GI-4, "Components" for symbols not described on the above.

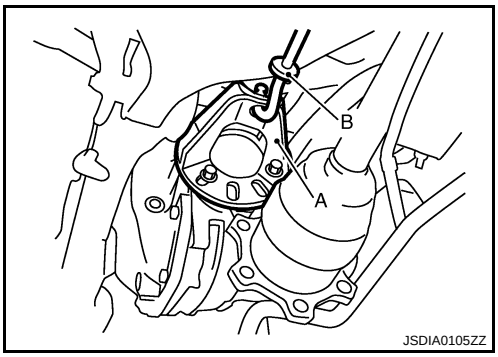
AWD : Removal and Installation

INFOID:0000000004507480

REMOVAL

1. Remove center muffler with a power tool. Refer to EX-5, "Exploded View".
2. Remove rear wheel sensor. Refer to BRC-101, "Exploded View".
3. Remove drive shaft from final drive with a power tool. Then suspend it by wire, etc. Refer to RAX-11, "Exploded View".
4. Install attachment to side flange, and then pull out the side flange with the sliding hammer.

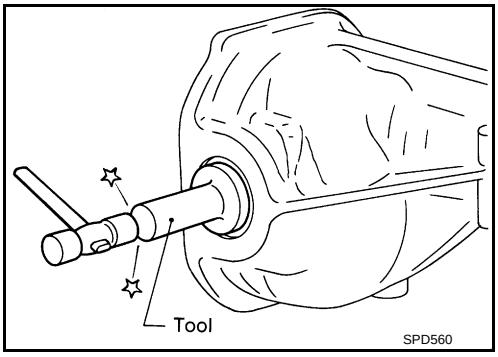
   A : Attachment [SST: KV40104100 (—)]
   B : Sliding hammer [SST: ST36230000 (J-25840-A)]



5. Remove side oil seal, using a suitable tool.
   CAUTION:
   Never damage gear carrier.

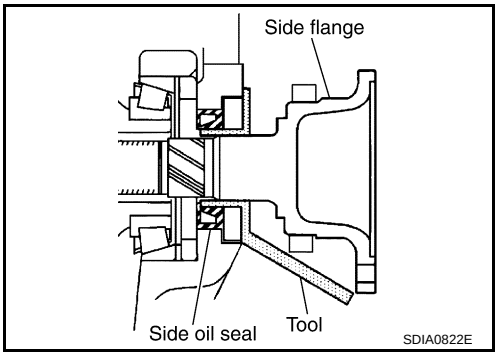
INSTALLATION

1. Apply multi-purpose grease to side oil seal lips.
2. Install side oil seal until it becomes flush with the case end, using the drift [SST: KV38100200 (J-26233)].
   CAUTION:
   - **Never reuse oil seal.**
   - **When installing, never incline oil seal.**



3. Install side flange with the following procedure.

a. Attach the protector [SST: KV38107900 (J-39352)] to side oil seal.
b. After the side flange is inserted and the serrated part of side gear has engaged the serrated part of flange, remove the protector.
c. Put a suitable drift on the center of side flange, then drive it until sound changes.
   NOTE:
   When installation is completed, driving sound of the side flange turns into a sound that seems to affect the whole final drive.



- Never deform or bend the brake tubes when installing the brake booster.
- Always use a new gasket between the brake booster and the dash panel.
- Replace the clevis pin if it is damaged. Refer to BR-19, "Inspection and Adjustment".
- Install the brake pedal assembly and brake booster mounting nuts, and tighten it to the specified torque.
- After installation, perform the air bleeding. Refer to BR-11, "Bleeding Brake System".

CAUTION:
Never reuse drained brake fluid.

Inspection and Adjustment

INFOID:0000000004499572

INSPECTION BEFORE REMOVAL

Air Tight

CAUTION:
Check the air tight condition when the master cylinder and the brake booster is installed.

1. With a handy vacuum pump, apply vacuum pressure of –66.7 kPa (–500 mmHg, –19.70 inHg) to the brake booster.
2. If the air tight condition cannot be maintained, perform the following operation.

a. Check the no dirt and dust are present on the brake booster and brake master cylinder mating faces. Clean it if necessary.
b. Check O-ring on the master cylinder. If anything is found, replace the O-ring.
c. Check the air tight condition again. If the condition still cannot be maintained, replace the brake booster.

INSPECTION AFTER REMOVAL

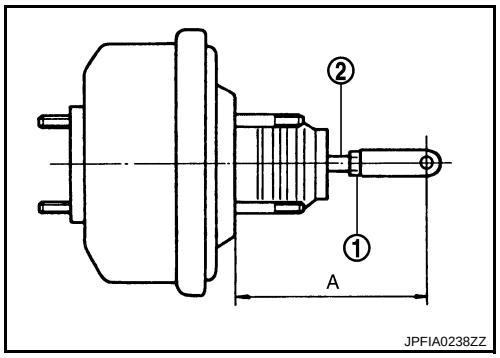
Input Rod Length Inspection

1. Loosen the lock nut (1) and adjust the input rod (2) to the specified length (A).

Standard

A : Refer to BR-64, "Brake Booster".

2. Tighten the lock nut to the specified torque.

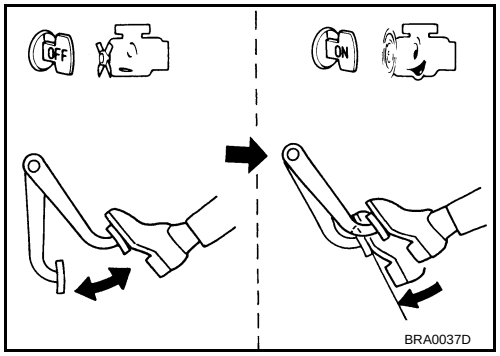


INSPECTION AFTER INSTALLATION

Operation

Depress the brake pedal several times at 5-second intervals with the engine stopped. Start the engine with the brake pedal fully depressed. Check that the clearance between brake pedal and dash lower pane decreases.

NOTE:
A slight impact with a small click may be felt on the pedal when the brake pedal is fully depressed. This is a normal phenomenon due to the brake system operation.



Air Tight

DTC/CIRCUIT DIAGNOSIS

B1001, B1002, B1003, B1004, B1005 DIAGNOSIS SENSOR UNIT

Description

INFOID:0000000004675938

Checks the entire SRS and displays the malfunction either by illuminating or blinking the air bag warning lamp on the combination meter. Malfunctioning part can be detected by on board self-diagnosis system and CONSULT-III.

OPERATION

It detects a shock that exceeds a specified level and monitors whether the driver and passenger air bags, front side air bag, side curtain air bag, and pre-tensioner seat belts operate normally.

STRUCTURE

It contains the “G” sensors for both frontal and side collisions and spare battery function in case of main battery damage in collision.

INSTALLATION

Air bag diagnosis sensor unit is installed under the center console with fixed bolts.

DTC Logic

INFOID:0000000004675939

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B1001 B1002 B1003 B1004 B1005	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning or out of the specification	• Malfunction in air bag diagnosis sensor unit • Configuration in air bag diagnosis sensor unit does not match the vehicles specification

DTC CONFIRMATION PROCEDURE

1.CHECK SELF-DIAG RESULT

With CONSULT-III
1. Turn ignition switch ON.
2. Perform “AIR BAG” Self Diagnostic Result.

Without CONSULT-III
1. Turn ignition switch ON.
2. Check the air bag warning lamp status. Refer to SRC-15, "Air Bag Warning Lamp Diagnosis".

NOTE:
SRS does not enter diagnosis mode if no malfunction is detected in user mode.

Is malfunctioning part detected?

YES >> Refer to SRC-21, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000004675940

WARNING:
- **Before servicing, turn ignition switch OFF, disconnect battery negative terminal and wait at least 3 minutes. (To discharge backup capacitor.)**
- **Never use unspecified tester or other measuring device.**

1.CHECK HARNESS CONNECTOR

Check the harness connector.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace harness connectors.

2.CHECK WIRING HARNESS

Check the wiring harness externals.

LUMBAR SUPPORT SWITCH

Removal and Installation

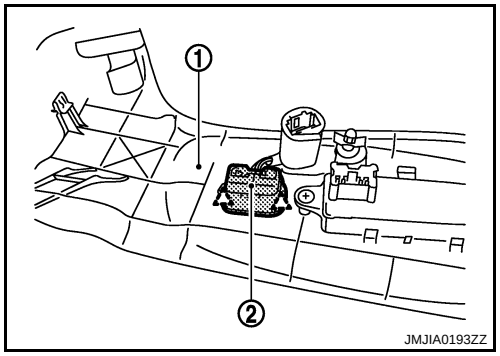
INFOID:0000000004241012

REMOVAL

CAUTION:

When removing and installing, use shop cloths to protect parts from damage.

1. Remove the seat cushion outer finisher (1). Refer to SE-115, "Removal and Installation"
2. Remove lumbar support switch (2).



INSTALLATION

Install in the reverse order of removal.

CAUTION:

- **Be sure to clamp the harness to the right place.**

B2557 VEHICLE SPEED

Description

INFOID:0000000004652242

BCM receives 2 vehicle speed signals via CAN communication. 1 signal is transmitted by the “unified meter and A/C amp.”. Another signal is transmitted by “ABS actuator and electric unit (control unit.)”. BCM compares both signals to detect the vehicle speed.

DTC Logic

INFOID:0000000004652243

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-36, "BCM : DTC Logic".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-38, "BCM : DTC Logic".

DTC No.	Self-diagnosis name	DTC detecting condition	Possible causes
B2557	VEHICLE SPEED	BCM detects the following difference between the vehicle speed signal from “unified meter and A/C amp.” and the one from “ABS actuator and electric unit” for 10 seconds continuously. • One is 10 km/h (6.2 MPH) or more and the other is 4 km/h (2.5 MPH) or less	• Wheel sensor • Unified meter and A/C amp. • ABS actuator and electric unit (control unit)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Drive the vehicle at the vehicle speed of 10 km/h (6.2 MPH) or more and wait 10 seconds or more.
2. Check “Self-diagnostic result” using CONSULT-III.

Is DTC detected?

YES >> Go to SEC-63, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000004652244

1.CHECK DTC WITH “ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)”

Check “Self-diagnostic result” using CONSULT-III. Refer to BRC-88, "DTC No. Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2.CHECK DTC WITH “COMBINATION METER”

Check “Self-diagnostic result” using CONSULT-III. Refer to MWI-101, "DTC Index".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

4. Check continuity between BCM connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M118	2		Not existed
	3		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-82, "Exploded View".
NO >> Repair or replace harness.

4. CHECK SUNROOF SWITCH INPUT SIGNAL

1. Connect sunroof motor assembly connector.
2. Turn ignition switch ON.
3. Check voltage between sunroof motor assembly connector and ground.

(+)		(–)	Condition	Voltage (V) (Approx.)
Sunroof motor assembly				
Connector	Terminal			
R4	5	Ground	Sunroof switch is operated TILT DOWN or SLIDE OPEN	0
			Other than above	Battery voltage
	1		Sunroof switch is operated TILT UP or SLIDE CLOSE	0
			Other than above	Battery voltage

Is the measurement value within the specification?

YES >> Replace sunroof motor assembly.
NO >> GO TO 5.

5. CHECK SUNROOF SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sunroof motor assembly connector and sunroof switch connector.
3. Check continuity between sunroof motor assembly connector and sunroof switch connector.

Sunroof motor assembly		Sunroof switch		Continuity
Connector	Terminal	Connector	Terminal	
R4	5	R16	1	Existed
	1		3	

4. Check continuity between sunroof motor assembly connector and ground.

Sunroof motor assembly		Ground	Continuity
Connector	Terminal		
R4	5		Not existed
	1		

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK SUNROOF SWITCH GROUND CIRCUIT

Check continuity between sunroof switch connector and ground.

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000004678912

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 AIR BAG” and “SEAT BELT” 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 AIR BAG”.**
- **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 WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

MAIN LINE BETWEEN DLC AND RAS CIRCUIT

Diagnosis Procedure

INFOID:0000000004457898

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).

- Harness connector M7
- Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	6	M7	20	Existed
	14		21	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the main line between the data link connector and the harness connector M7.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1	20	22	Existed
	21	23	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the 4WAS main control unit.
NO >> Repair the main line between the harness connector B1 and the 4WAS main control unit.

B260A IGNITION RELAY

Description

INFOID:0000000004684010

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.
- Ignition relay (inserted into fuse block)
- Ignition relay (built into IPDM E/R)
- Blower fan motor relay

BCM checks any ignition relay ON request for consistency with the actual ignition relay operation status.

DTC Logic

INFOID:0000000004684011

DTC DETECTION LOGIC

NOTE:
- If DTC B260A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-47, "DTC Logic".
- If DTC B260A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to PCS-48, "DTC Logic".
- If DTC B260A is displayed with DTC B261A, first perform the trouble diagnosis for DTC B261A. Refer to PCS-60, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260A	IGNITION RELAY	BCM detects a difference of signal for 2 second or more between the following information. • Ignition relay (IPDM E/R) operation request • Ignition relay feedback from IPDM E/R (CAN).	• Harness or connectors (Ignition relay operation circuit is open or shorted.) • BCM • IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for at least 2 seconds.

A/T models
- A/T selector lever is in the P or N position
- Do not depress brake pedal

M/T models
- Do not depress clutch pedal

2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Go to PCS-51, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000004684012

1.CHECK DTC WITH IPDM E/R

Check “Self diagnostic result” with CONSULT-III. Refer to PCS-31, "DTC Index".

Is DTC detected?

YES >> Repair or replace the malfunctioning parts.
NO >> GO TO 2.

2.CHECK IGNITION RELAY INPUT SIGNAL

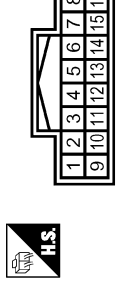
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

METER

Connector No.	F108
Connector Name	AWD CONTROL UNIT
Connector Type	TH16FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
8	L	CAN-H
16	P	CAN-L

Connector No.	F157
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	SP10FG

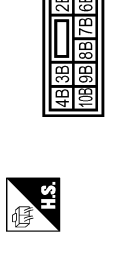


Terminal No.	Color of Wire	Signal Name [Specification]
3	R	CAN-H
8	BR	CAN-L

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2

Terminal No.	Color of Wire	Signal Name [Specification]
1A	V	–
2A	G	–
5A	L	–

Connector No.	M2
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
3B	P	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FW-CS

Terminal No.	Color of Wire	Signal Name [Specification]
12C	R	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

Terminal No.	Color of Wire	Signal Name [Specification]
6	P	–
7	L	–
18	L	–
36	O	–
80	SB	–
81	R	–
82	V	–

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

Terminal No.	Color of Wire	Signal Name [Specification]
20	L	–
21	P	–
22	L	–
23	P	–
80	Y	–
82	BR	– [With A/T]
82	B	– [With M/T]
86	L	–
98	O	–

Connector No.	M16
Connector Name	AFS CONTROL UNIT
Connector Type	TH40FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
7	P	CAN-L
30	L	CAN-H

JCNWA1730GE