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NISSAN SENTRA

MODEL B17 SERIES

QUICK REFERENCE INDEX

Connector No.	M44
Connector Name	AUDIO UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	B	EQ03
24	–	–
25	–	–
26	–	–
27	SB	M CAN1-H
28	LG	M CAN1-L
29	Y	TEL ON
30	SHIELD	TEL SHIELD
31	GR	TEL I/F (-)
32	BR	TEL I/F (+)
33	–	–
34	–	–
35	B	M CAN2-H
36	R	M CAN2-L

Connector No.	M45
Connector Name	BLUETOOTH® CONTROL UNIT
Connector Color	WHITE

H.S.

2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31

Terminal No.	Color of Wire	Signal Name
1	Y	BATT
2	W	ACC
3	BR	IGN
4	B	GND
5	–	–
6	–	–
7	G	MIC IN +
8	SHIELD	MIC IN -
9	BR	AUDIO OUT (+)
10	GR	AUDIO OUT (-)
11	Y	MUTE CONTROL
12	G	LAD IN1
13	R	LAD IN 2
14	V	LAD IN3 (GND)
15	–	–
16	–	–
17	G	LAD OUT1
18	LG	LAD OUT2
19	P	LAD OUT3 (GND)
20	–	–
21	B	CONT2
22	B	CONT3
23	B	CONT4
24	–	–
25	–	–
26	–	–
27	B	CONT6
28	Y	SPEED SIGNAL
29	R	MIC PWR
30	–	–
31	–	–
32	–	–

ABNIA5777GB

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010296642

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. Information necessary to service the system safely is included in the SR 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 SR 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 WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- **When working near the Airbag Diagnosis Sensor Unit or other Airbag 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 three minutes before performing any service.**

Precaution for Trouble Diagnosis

INFOID:0000000009758834

AV COMMUNICATION SYSTEM

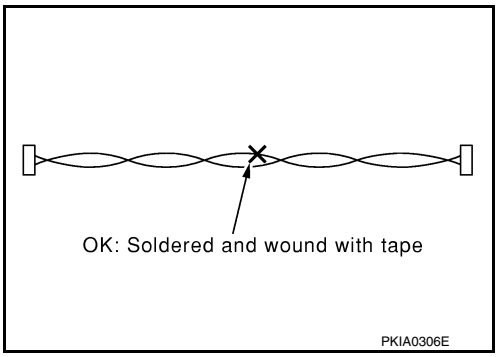
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:0000000009758835

AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



BLUETOOTH® CONTROL SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009758857

Regarding Wiring Diagram information, refer to AV-88, "Wiring Diagram".

1.CHECK CONTROL SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect Bluetooth® control unit connector M45.
3. Check continuity between Bluetooth® control unit connector M45 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminals		
M45	4	—	Yes
	21		
	22		
	24		

Is the inspection result normal?

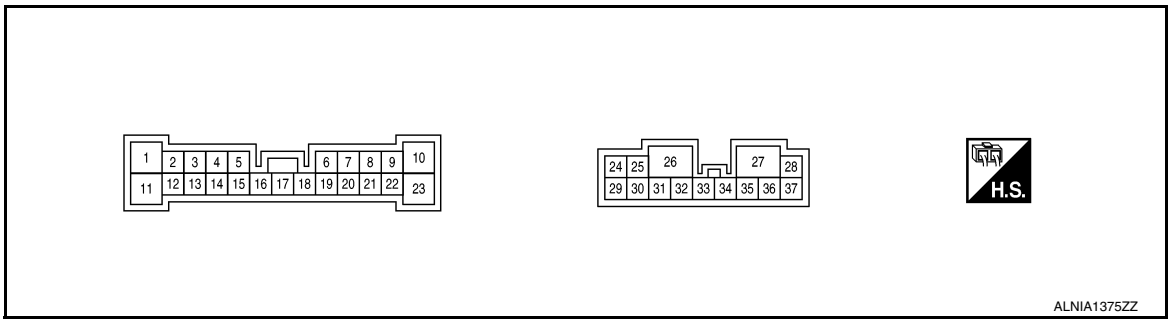
YES >> Replace Bluetooth® control unit. Refer to AV-134, "Removal and Installation".
NO >> Repair or replace harness or connectors.

BOSE SPEAKER AMP

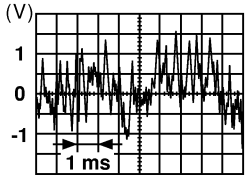
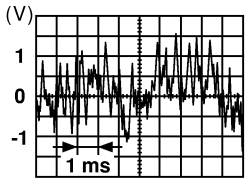
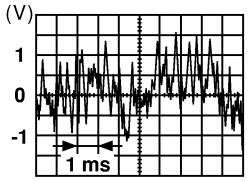
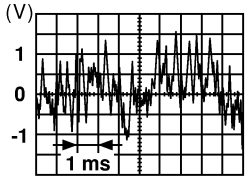
Reference Value

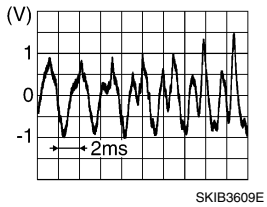
INFOID:0000000009758892

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
3 (W)	2 (B)	Sound signal front speaker LH	Input	ON	Sound output	 SKIA0177E
5 (G)	4 (R)	Sound signal front speaker RH	Input	ON	Sound output	 SKIA0177E
7 (SB)	6 (V)	Front door speaker signal RH	Output	ON	Sound output	 SKIA0177E
10 (G)	23 (GR)	Rear door speaker signal LH	Output	ON	Sound output	 SKIA0177E

Bluetooth® control unit connector M45		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
7	8	Speak into microphone.	

SKIB3609E

Were voltage readings as specified?

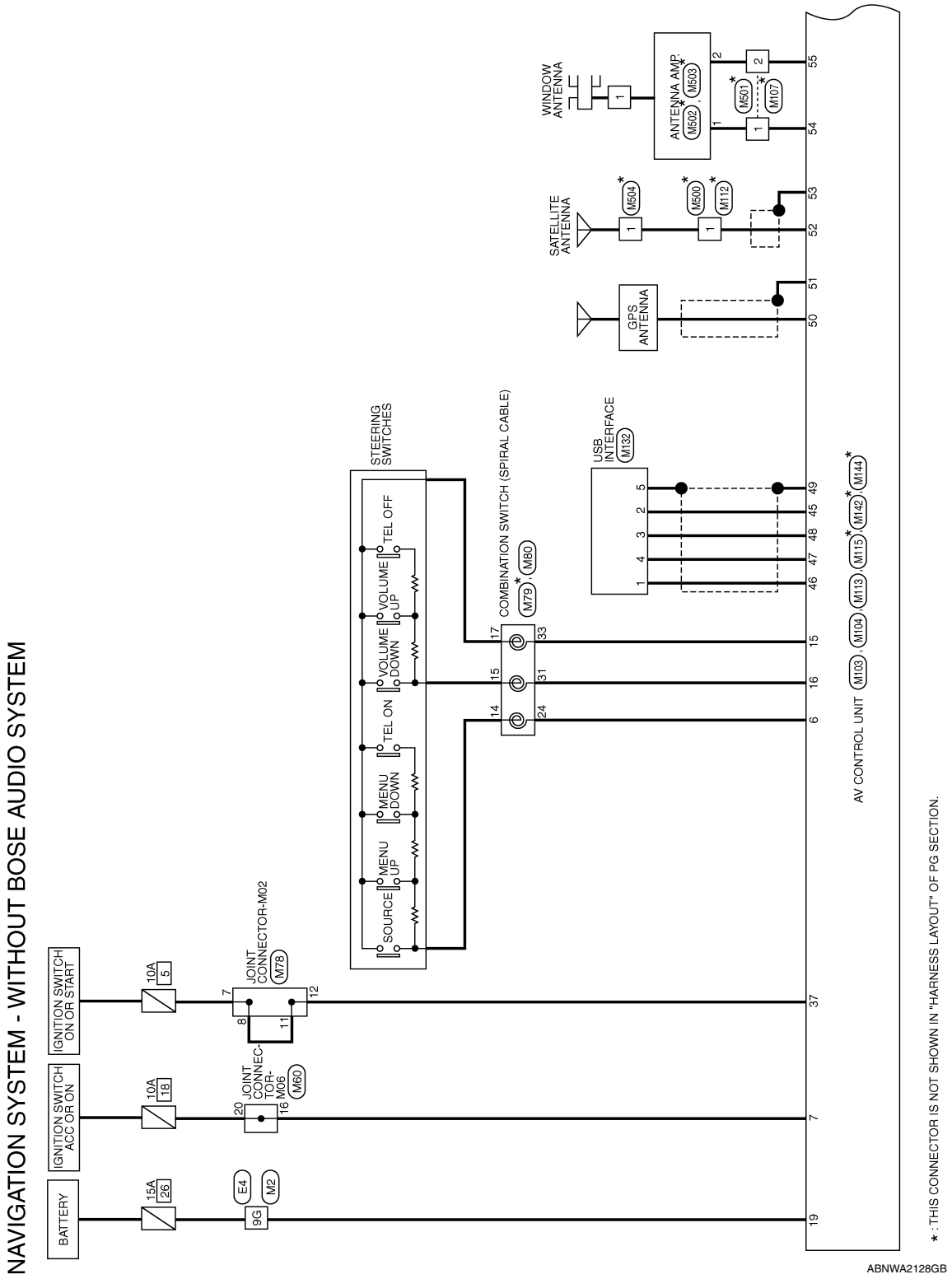
YES >> Replace Bluetooth® control unit. Refer to AV-217, "Removal and Installation".
NO >> Replace microphone. Refer to AV-218, "Removal and Installation".

WIRING DIAGRAM

NAVIGATION WITHOUT BOSE

Wiring Diagram

INFOID:0000000009758942



REAR SPEAKER

Diagnosis Procedure

INFOID:0000000009758977

Regarding Wiring Diagram information, refer to AV-234, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the terminals or connectors.

2.CHECK REAR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M103 and suspect rear speaker connector.
2. Check continuity between AV control unit connector M103 and suspect rear speaker connector.

AV control unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M103	4	B40 (LH)	1	Yes
	5		2	
	13	B38 (RH)	1	
	14		2	

3. Check continuity between AV control unit connector M103 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M103	4	—	No
	5		
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3
NO >> Repair or replace harness or connectors.

3.CHECK REAR SPEAKER SIGNAL

1. Connect AV control unit connector M103 and suspect rear speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M103.

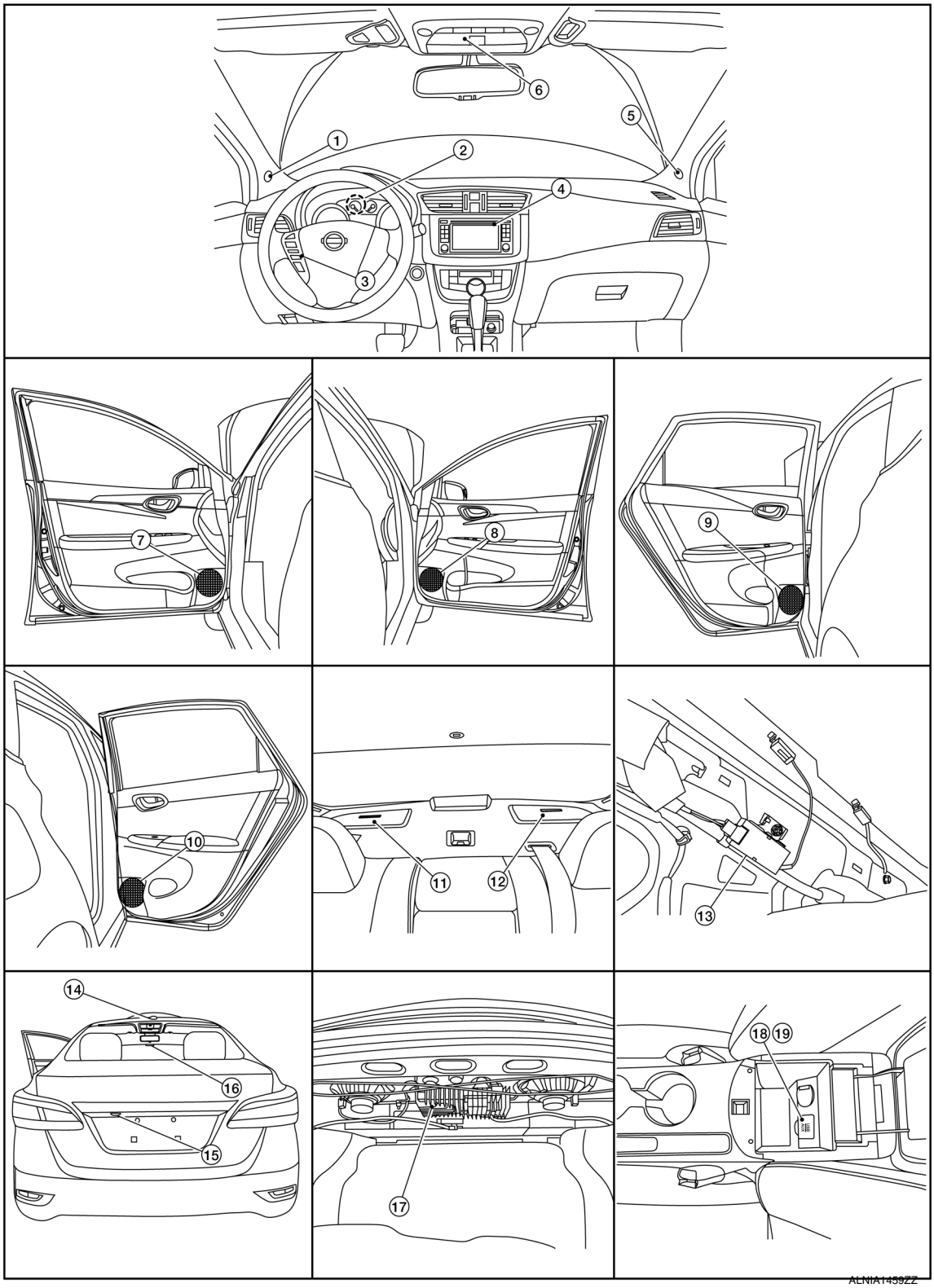
AV control unit connector M103		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009759006



U1244 GPS ANTENNA

DTC Logic

INFOID:0000000009759029

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
GPS ANTENNA CONN [U1244]	Open or short to ground is detected in GPS antenna connection.	• GPS antenna disconnection. • Open or short to ground in GPS antenna signal circuit.

Diagnosis Procedure

INFOID:0000000009759030

Regarding Wiring Diagram information, refer to AV-331, "Wiring Diagram".

1.GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to AV-412, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between AV control unit connector M116 terminal 50 and ground.

AV control unit terminal	Ground	Voltage
(+)	(−)	
50	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to AV-420, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-406, "Removal and Installation".

Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

RELATED TO NAVIGATION

Basic Operation

Symptom	Cause	Remedy
No image is shown.	Display brightness adjustment is set fully to DARK side.	Adjust the display brightness.
No guide sound is heard. Audio guide volume is too low or too high.	Volume control is set to OFF, MIN or MAX.	Adjust the audio guide volume.
	Audio guidance is not available while the vehicle is driving on a dark pink route.	System is not malfunctioning.
Screen is too dark. Motion of the image is too slow.	Temperature inside the vehicle is low.	Wait until the temperature inside the vehicle reaches the proper temperature.
Small black or bright spots appear on the screen.	Symptom peculiar to a liquid crystal display (display unit).	System is not malfunction.

Vehicle Mark

Symptom	Cause	Remedy
Map screen and BIRDVIEW™ Name of the place vary with the screen.	Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ. The same place name, street name, etc. may not be displayed every time on account of the data processing.	System is not malfunctioning.
Vehicle mark is not positioned correctly.	Vehicle is transferred by ferry or by towing after its ignition switch is turned to OFF.	Drive the vehicle for a while in the GPS satellite signal receiving condition.
Screen will not switch to nighttime mode after the lighting switch is turned ON.	The daytime screen is selected by the "SWITCH SCREENS" when the last time the screen dimming setting is done. Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function.	Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".
Map screen will not scroll in accordance with the vehicle travel.	Current location is not displayed.	Press "MAP" button to display the current location.
Vehicle mark will not be shown.	Current location is not displayed.	Press "MAP" button to display the current location.
Accuracy indicator (GPS satellite mark) on the map screen stays gray.	GPS satellite signal is intercepted because the vehicle is in or behind a building.	Move the vehicle out to an open space.
	GPS satellite signal cannot be received because an obstacle is placed on top of the instrument panel.	Do not place anything on top of the meter display (instrument panel).
	GPS satellites are not visible from current location.	Wait until GPS satellites are visible by moving the vehicle.

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
REAR DEF SW [On/Off]	Indicates condition of rear window defogger switch.

ACTIVE TEST

Test Item	Description
REAR DEFOGGER	This test is able to check rear window defogger operation [Off/On].

BUZZER

BUZZER : CONSULT Function (BCM - BUZZER)

INFOID:0000000009757309

DATA MONITOR

Monitor Item [Unit]	Description
PUSH -SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of driver door unlock sensor.
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
TAIL LAMP SW [On/Off]	Indicates condition of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.

ACTIVE TEST

Test Item	Description
ID REGIST WARNING	This test is able to check TPMS transmitter ID regist warning chime operation [On/Off].
SEAT BELT WARN TEST	This test is able to check seat belt warning chime operation [On/Off].
LIGHT WARN ALM	This test is able to check light warning chime operation [On/Off].

INT LAMP

INT LAMP : CONSULT Function (BCM - INT LAMP)

INFOID:0000000009757310

DATA MONITOR

Monitor Item [Unit]	Description
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.
PUSH -SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of driver door unlock sensor.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of trunk switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
1	–	–
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3
5	O	COMBINATION SW INPUT 2
6	W	COMBINATION SW INPUT 1
7	L	KEY CYLINDER UNLOCK SW
8	V	KEY CYLINDER LOCK SW
9	R	BRAKE SW1
10	–	–
11	–	–
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW
14	SB	AUTO LIGHT SENSOR INPUT
15	W	REAR DEFOGGER SW
16	O	MR OUTPUT
17	Y	AUTO LIGHT SENSOR POWER SUPPLY OUTPUT
18	V	KEYLESS TUNER, AUTO LIGHT SENSOR GND
19	–	–
20	–	–
21	P	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)
22	–	–
23	Y	SECURITY INDICATOR OUTPUT
24	SB	AUDIO/DONGLE LINK (SERIAL)
25	LG	IMMOBILIZER TWO WAY COMMUNICATION
26	–	–
27	Y	AIR CON SW
28	LG	BLOWER FAN SW
29	SB	HAZARD SW
30	L	TRUNK/BACK DOOR OPENER SW
31	R	DOOR LOCK STATUS SW (DR)
32	LG	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	V	COMBINATION SW OUTPUT 3
35	R	COMBINATION SW OUTPUT 2
36	SB	COMBINATION SW OUTPUT 1
37	P	SHIFT P POSITION, PARKING POSITION SW (WITH CVT)
37	P	ASCD CANCEL SW (CLUTCH CANCEL SW) (WITH M/T)
38	LG	INTELLIGENT TUNER
39	L	CAN-H
40	P	CAN-L

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
81	G	STARTER OUTPUT ENABLE INPUT
82	BR	ROOM LAMP OUTPUT
83	–	–
84	W	FLASHER OUTPUT (RIGHT)
85	Y	FLASHER OUTPUT (LEFT)
86	SB	DOOR UNLOCK OUTPUT (AS)
87	–	–
88	O	BATTERY (FUSE)
89	P	BATTERY SAVER OUTPUT
90	Y	BATTERY (F/L)
91	G	POWER WINDOW POWER SUPPLY (BATTERY)
92	L	POWER WINDOW SUPPLY (RAP)
93	B	GND (POWER)
94	SB	DOOR UNLOCK COMMON (DR)
95	O	DOOR LOCK OUTPUT (ALL)

ABMIA5644GB

Monitor Item	Condition	Value/Status
KEYLESS PANIC	PANIC button of keyfob not pressed	Off
	PANIC button of keyfob pressed	On
KEYLESS UNLOCK	UNLOCK button of keyfob not pressed	Off
	UNLOCK button of keyfob pressed	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
PKB SW	Parking brake released	Off
	Parking brake engaged	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
REVERSE SW CAN	Reverse switch OFF	Off
	Reverse switch ON	On
TAIL LAMP SW	Lighting switch OFF	Off
	Lighting switch 1ST	On
THERMO AMP	A/C and fan ON switch OFF	Off
	A/C and fan ON switch ON	On
TRNK OPEN MNTR	Trunk lid switch OFF	Off
	Trunk lid switch ON	On
TRNK/HAT MNTR	Trunk lid closed	Off
	Trunk lid open	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
VEHICLE SPEED	While driving, equivalent to speedometer reading	mph, km/h
WARNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off
	Low tire pressure warning lamp in combination meter ON	On

FRONT DISC BRAKE

BRAKE PAD

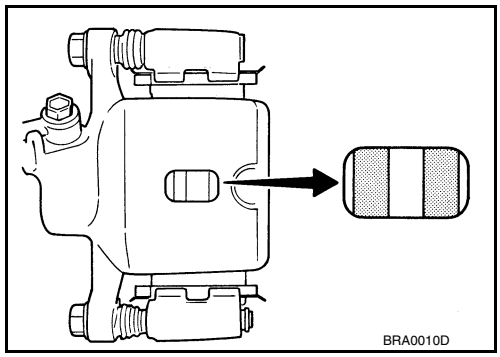
BRAKE PAD : Inspection

INFOID:0000000009755989

PAD WEAR

Check brake pad thickness from an inspection hole on caliper body. Check using a scale if necessary.

Wear limit thickness : Refer to BR-55, "Front Disc Brake".



DISC ROTOR

DISC ROTOR : Inspection

INFOID:0000000009755990

APPEARANCE

Check surface of disc rotor for uneven wear, cracks or damage. Replace if any abnormal conditions exist.

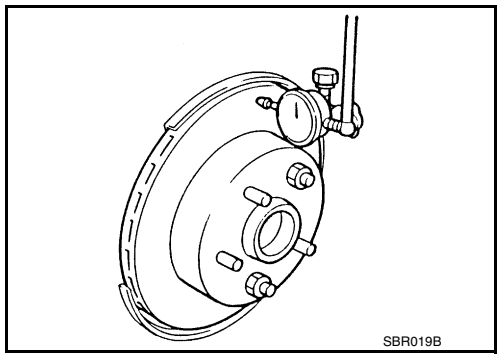
RUNOUT

1. Check the wheel bearing axial end play before the inspection. Refer to FAX-6, "Inspection".
2. Secure the disc rotor to the wheel hub and bearing assembly with wheel nuts at two wheel nut locations.
3. Inspect the runout with a dial gauge, measured at 10 mm (0.39 in) inside the disc edge.

Runout : Refer to BR-55, "Front Disc Brake".

4. Find the installation position with a minimum runout by shifting the disc rotor-to-wheel hub and bearing assembly installation position by one hole at a time if the runout exceeds the limit value.
5. Refinish the disc rotor if the runout is outside the limit even after performing the above operation. When refinishing, use Tool.

Tool number : 38-PFM92 (—)

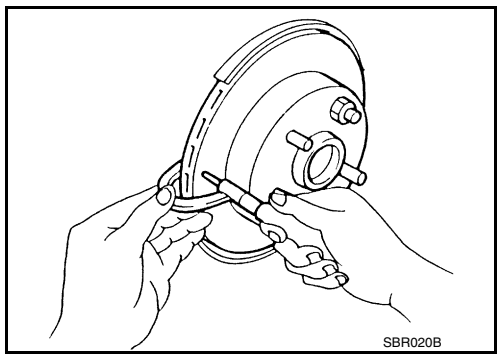


THICKNESS

Check the thickness of the disc rotor using a micrometer. Replace the disc rotor if the thickness is below the wear limit.

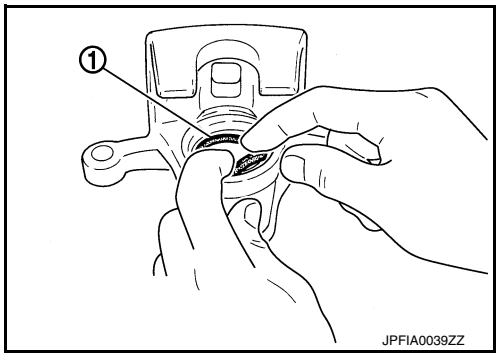
Wear thickness : Refer to BR-55, "Front Disc Brake".

Thickness variation : Refer to BR-55, "Front Disc Brake".

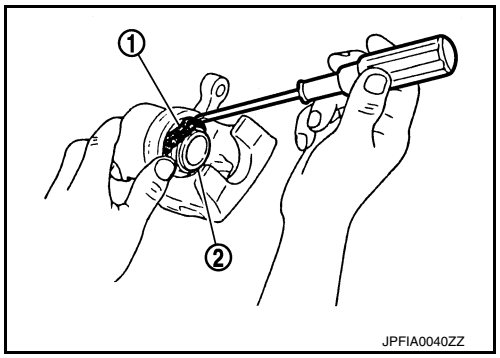


ASSEMBLY

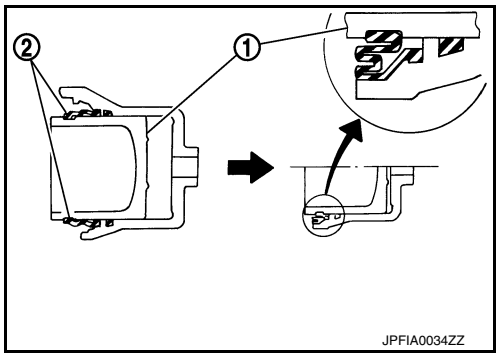
1. Install bleeder valve and cap.
2. Apply rubber grease to piston seal (1), and install to cylinder body.
   CAUTION:
   Do not reuse piston seal.



3. Apply rubber grease to piston boot (1). Cover the piston (2) end with piston boot, and install cylinder side lip on piston boot securely into a groove on cylinder body.
   CAUTION:
   Do not reuse piston boot.



4. Apply new brake fluid to piston (1). Push piston into cylinder body by hand and push piston boot (2) piston-side lip into the piston groove.
   CAUTION:
   Press the piston evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.



Monitor item	Display content	Data monitor	
		Condition	Reference value in normal operation
USV[FL-RR]	VDC switch-over valve	When actuator (switch-over valve) is active (“ACTIVE TEST” with CONSULT) or actuator relay is inactive (when in fail-safe mode)	On
		When actuator (switch-over valve) is not active and actuator relay is active (ignition switch ON)	Off
USV[FR-RL]	VDC switch-over valve	When actuator (switch-over valve) is active (“ACTIVE TEST” with CONSULT) or actuator relay is inactive (when in fail-safe mode)	On
		When actuator (switch-over valve) is not active and actuator relay is active (ignition switch ON)	Off
HSV[FL-RR]	VDC switch-over valve	When actuator (switch-over valve) is active (“ACTIVE TEST” with CONSULT) or actuator relay is inactive (when in fail-safe mode)	On
		When actuator (switch-over valve) is not active and actuator relay is active (ignition switch ON)	Off
HSV[FR-RL]	VDC switch-over valve	When actuator (switch-over valve) is active (“ACTIVE TEST” with CONSULT) or actuator relay is inactive (when in fail-safe mode)	On
		When actuator (switch-over valve) is not active and actuator relay is active (ignition switch ON)	Off
V/R OUTPUT	Solenoid valve relay activated	When the solenoid valve relay is active (when ignition switch OFF)	On
		When the solenoid valve relay is not active (in the fail-safe mode)	Off
M/R OUTPUT	Actuator motor and motor relay activated	When the actuator motor and motor relay are active (″ACTIVE TEST” with CONSULT)	On
		When the actuator motor and motor relay are inactive	Off
ENGINE RPM	With engine running	With engine stopped	0 rpm
		Engine running	Almost in accordance with tachometer display

Note 1: Confirm tire pressure is normal.

Note 2: On and off timing for warning lamps and indicator lamps.

- Refer to BRC-22, "VDC/TCS/ABS : VDC Function".
- Refer to BRC-24, "VDC/TCS/ABS : TCS Function".
- Refer to BRC-26, "VDC/TCS/ABS : ABS Function".
- Refer to BRC-27, "VDC/TCS/ABS : EBD Function".

Fail-safe

INFOID:0000000009757825

VDC AND TCS FUNCTIONS

VDC warning lamp in combination meter turns ON when a malfunction occurs in system [ABS actuator and electric unit (control unit)]. The control is suspended for VDC and TCS functions. However, ABS and EBD functions operate normally.

C1143 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000009757860

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
C1143	ST ANG SEN CIRCUIT	When a malfunction is detected in steering angle sensor.	• Harness or connector • Steering angle sensor • ABS actuator and electric unit (control unit) • Fuse • Ignition power supply system • CAN communication line

DTC CONFIRMATION PROCEDURE

1.CHECK SELF DIAGNOSTIC RESULT

With CONSULT.
1. Turn ignition switch ON.
2. Perform self diagnostic result.

Is DTC C1143 detected?

YES >> Proceed to diagnosis procedure. Refer to BRC-80, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009757861

Regarding Wiring Diagram information, refer to BRC-44, "Wiring Diagram".

1.CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect ABS actuator and electric unit (control unit) and steering angle sensor connectors.
3. Check connectors and terminals for deformation, disconnection, looseness or damage.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace as necessary.

2.CHECK STEERING ANGLE SENSOR MOUNTING CONDITION

Check steering angle sensor mounting condition.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace malfunctioning components.

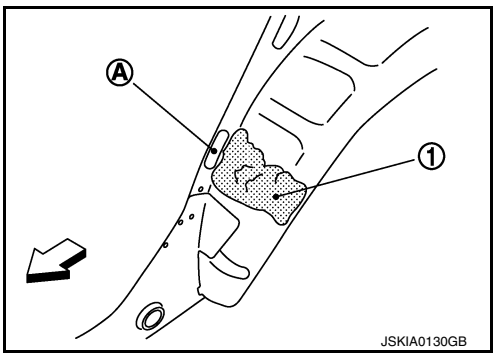
3.CHECK STEERING ANGLE SENSOR POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect steering angle sensor connector.
3. Turn ignition switch ON.
4. Check voltage between steering angle sensor connector M14 terminal 4 and ground.

Steering angle sensor		—	Voltage (Approx.)
Connector	Terminal		
M14	4	Ground	Battery voltage

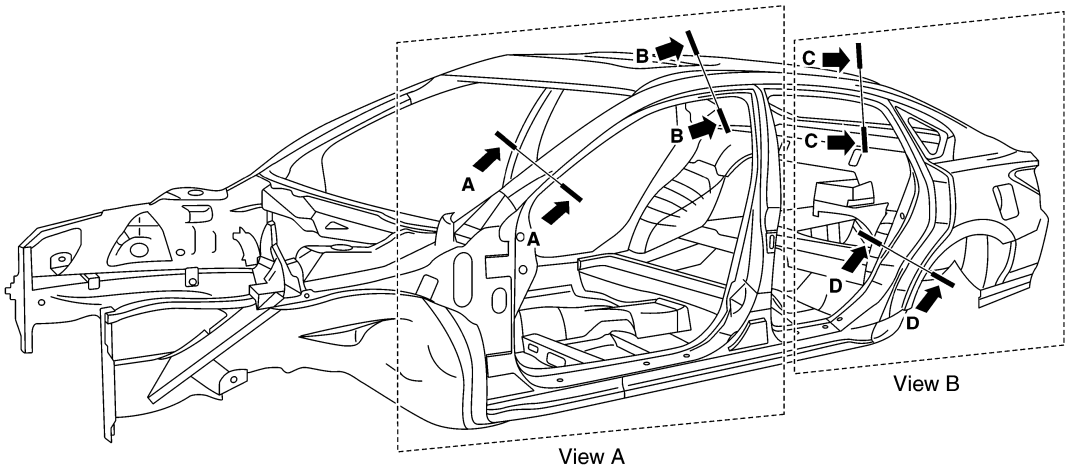
Is the inspection result normal?

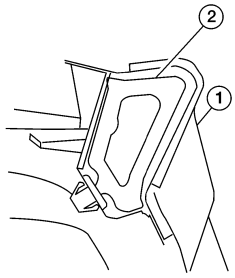
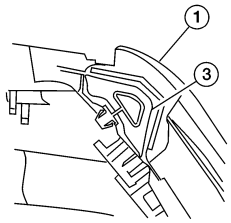
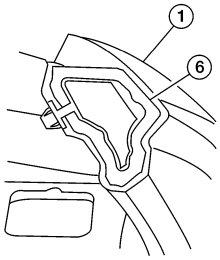
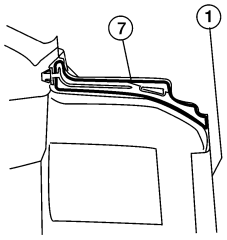
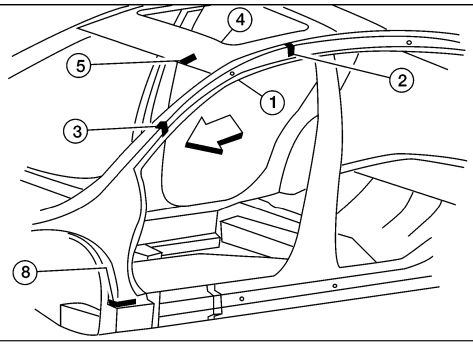
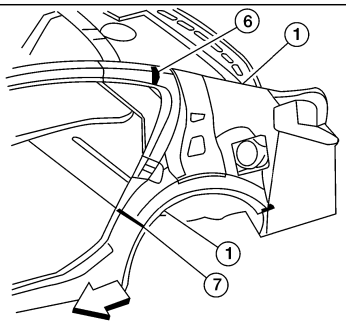
YES >> GO TO 4.



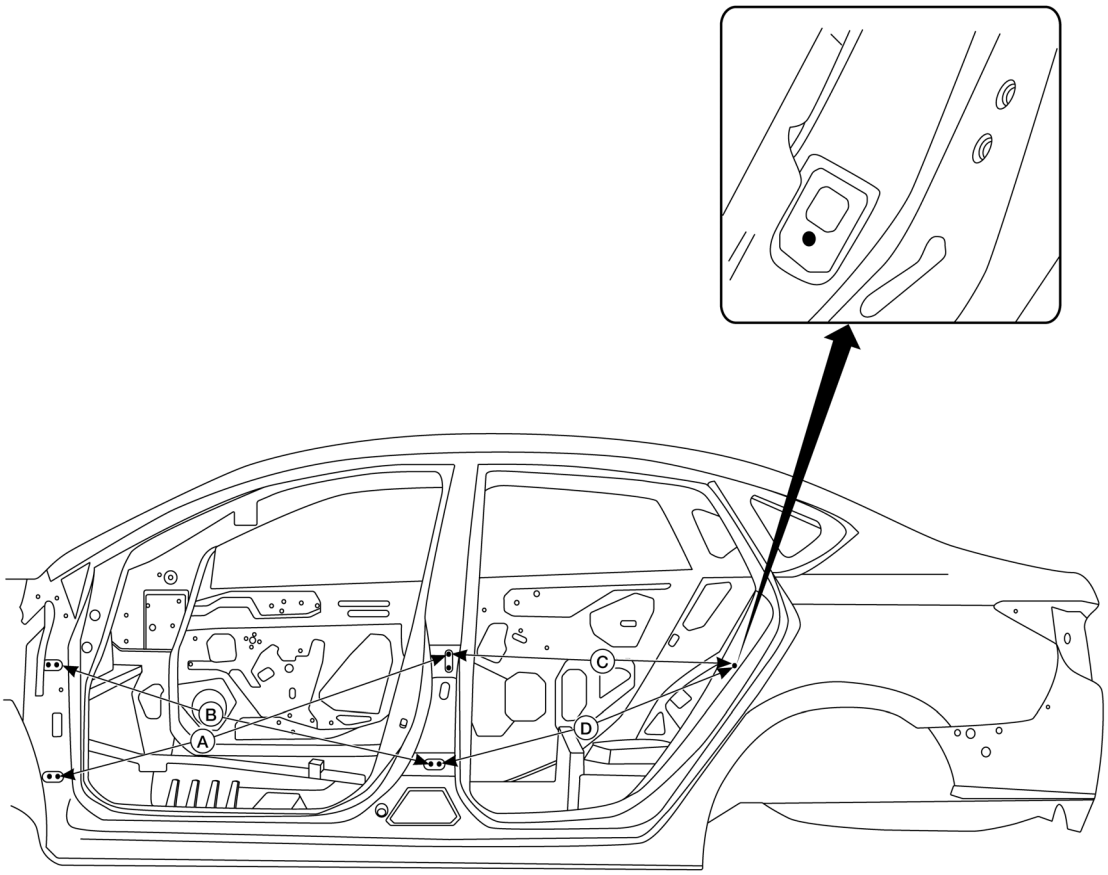
1. Urethane foam
A. Fill while avoiding flange area
⇦: Front

d. Install service part.
NOTE:
Refer to the label on the urethane foam container for information on working times.



Section A-A	Section B-B	Section C-C	Section D-D
			
View A		View B	
			

ALKIA2576GB



ALKIA2764ZZ

Unit: mm (in)

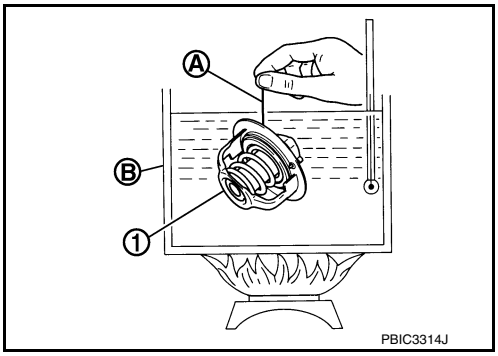
Position	Description	Measurement
A	Front door lower hinge rear bolt to rear door upper hinge bolt.	1190 (46.9)
B	Front door upper hinge rear bolt to rear door lower hinge front bolt.	1125 (44.3)
C	Rear door upper hinge bolt to rear door switch retaining screw.	810 (31.9)
D	Rear door lower hinge rear bolt to rear door switch retaining screw.	880 (34.6)

The dimensions are symmetrically identical on both the RH and LH sides of the vehicle.

SECTION CL
CLUTCH

CONTENTS

- Place a thread (A) so that it is caught in the valves of the thermostat (1). Immerse fully in a container (B) filled with water. Heat while stirring.
- The valve opening temperature is the temperature at which the valve opens and the thermostat falls from the thread.
- Continue heating. Check the full-open lift amount.
  NOTE:
  The full-open lift amount standard temperature for the thermostat is the reference value.
- After checking the full-open lift amount, lower the water temperature and check the valve closing temperature.



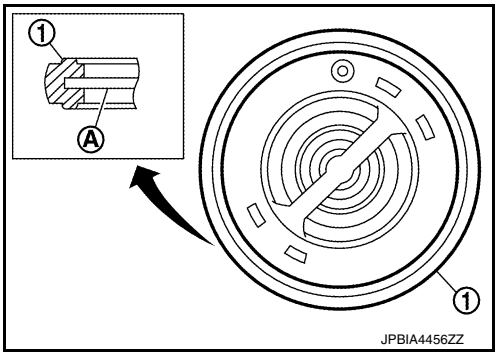
Thermostat	Standard Values
Valve opening temperature	Refer to CO-28, "Thermostat"
Full-open lift amount	Refer to CO-28, "Thermostat"
Valve closing temperature	Refer to CO-28, "Thermostat"

- If valve setting at measured values are out of standard range, replace thermostat.

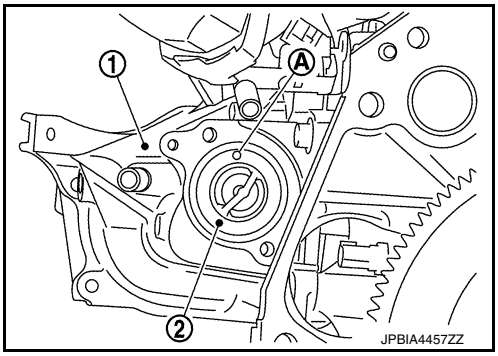
INSTALLATION

Installation is in the reverse order of removal.

- Install the thermostat with the whole circumference of the flange (A) fitting securely inside the rubber ring (1).
  CAUTION:
  Do not reuse rubber ring.



- Install the thermostat (2) into the thermostat housing (1) with the jiggle valve (A) facing upwards. The position deviation may be within the range of ±10°.
- After installation, refill engine coolant and check for leaks. Refer to CO-12, "Changing Engine Coolant" and CO-11, "System Inspection".



Removal and Installation of Thermostat Housing

INFOID:0000000009757173

REMOVAL

1. Remove the generator. Refer to CHG-29, "Removal and Installation".
2. Partially remove the fender protector (LH). Refer to EXT-28, "FENDER PROTECTOR : Removal and Installation - Front Fender Protector".
3. Remove the thermostat housing bolts, then remove the thermostat housing.
4. Remove thermostat if necessary. Refer to CO-21, "Removal and Installation of Thermostat".
5. Remove water pump if necessary. Refer to CO-19, "Removal and Installation".

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **Do not reuse gasket**

DRIVER SIDE DOOR MIRROR DEFOGGER

Description

INFOID:0000000009759107

Heats the heating wire with the power supply from the rear window defogger relay to prevent the door mirror from fogging up.

Component Function Check

INFOID:0000000009759108

1. CHECK DOOR MIRROR DEFOGGER LH

Check that heating wire of door mirror defogger LH is heated when turning the rear window defogger switch ON.

Is the inspection result normal?

YES >> Door mirror defogger is OK.
NO >> Refer to DEF-35, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009759109

Regarding Wiring Diagram information, refer to DEF-20, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door mirror LH.
3. Turn ignition switch ON.
4. Check voltage between door mirror LH connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
Door mirror LH					
Connector	Terminal				
D7	3	Ground	Rear window defogger switch	ON	Battery voltage
				OFF	0

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness.

2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between door mirror LH connector and ground.

Door mirror LH		Ground	Continuity
Connector	Terminal		
D7	9		Yes

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness.

3. CHECK DOOR MIRROR DEFOGGER LH

Check door mirror defogger LH.
Refer to DEF-36, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace door mirror. Refer to MIR-18, "DOOR MIRROR ASSEMBLY : Removal and Installation".

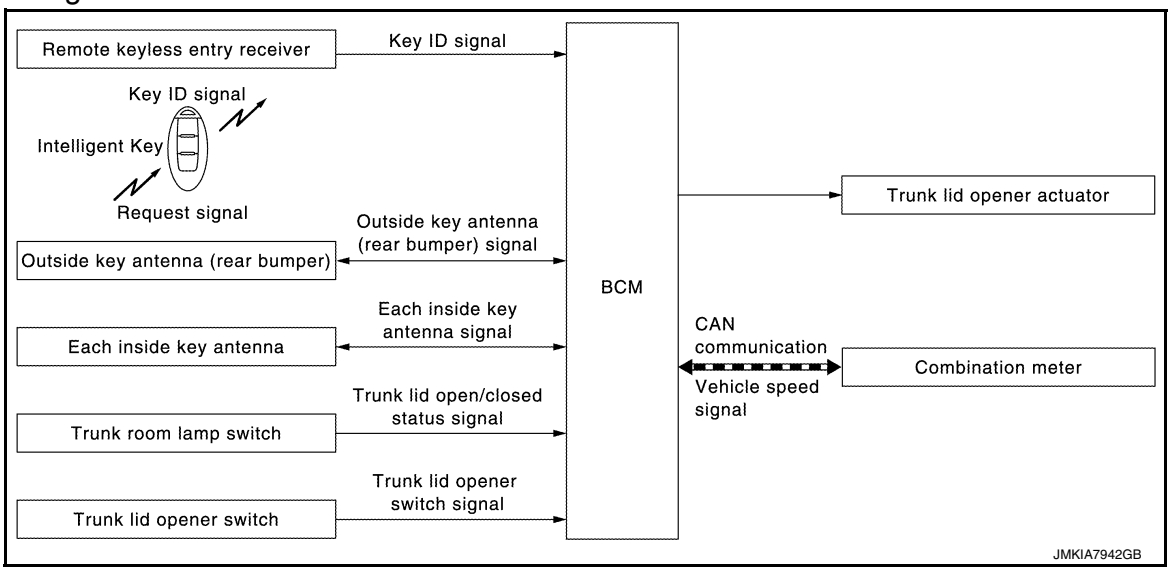
Door lock function	Intelligent Key	Remote keyless entry receiver	Door switch	Door request switch	Door lock actuator	Inside key antenna	Outside key antenna	Intelligent Key warning buzzer	CAN communication system	BCM	Hazard warning lamp	Push-button ignition switch	Combination meter
Door lock/unlock function	×	×	×	×	×	×	×			×			
Hazard and buzzer reminder function								×	×	×	×		×
Auto door lock function	×	×	×	×	×		×			×		×	

TRUNK OPEN FUNCTION

TRUNK OPEN FUNCTION : System Description

INFOID:0000000009756353

System Diagram



TRUNK LID OPENER OPERATION

- When the BCM detects that trunk lid opener switch is pressed, it starts the outside key antenna (rear bumper) and inside key antenna and transmits the request signal to the Intelligent Key. Then, checks that the Intelligent Key is near the trunk lid.
- If the Intelligent Key is within the outside key antenna detection area, it receives the request signal and transmits the key ID signal to the BCM via remote keyless entry receiver.
- BCM receives the key ID signal and compares it with the registered key ID.

OPERATION CONDITION

If the following conditions are satisfied, the trunk lid can be opened.

Trunk lid open function	Operation condition
Trunk open operation	• Vehicle speed is less than 5 km/h (3 MPH) • Intelligent Key is within outside key antenna (rear bumper) detection area • Trunk lid is closed

OUTSIDE KEY ANTENNA DETECTION AREA

1.GET INFORMATION FOR SYMPTOM

1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
2. Check operation condition of the function that is malfunctioning.

>> GO TO 2.

2.CHECK DTC

1. Check DTC.
2. Perform the following procedure if DTC is detected.

- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.
Symptom is described, DTC is not detected>>GO TO 4.
Symptom is not described, DTC is detected>>GO TO 5.

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Also study the normal operation and fail-safe related to the symptom.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-48, "DTC Inspection Priority Chart" and determine trouble diagnosis order.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
  If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIRMATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.
NO >> Check according to GI-39, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

Is the symptom described?

YES >> GO TO 7.
NO >> Monitor input data from related sensors or check voltage of related module terminals using CONSULT.

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Check voltage between remote keyless entry receiver harness connector and ground.

(+)		(–)	Voltage Approx.
Remote keyless entry receiver			
Connector	Terminal		
M91	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.
NO-1 >> Check 10A fuse No. 14 [located in fuse block J/B].
NO-2 >> Repair or replace harness between BCM and 10A fuse No. 14.

4. CHECK REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT

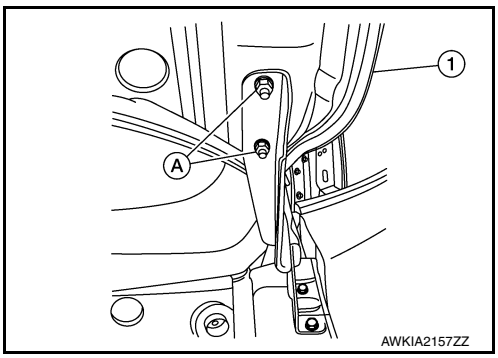
Check continuity between remote keyless entry receiver harness connector and ground.

Remote keyless entry receiver		Ground	Continuity
Connector	Terminal		
M91	4		Yes

Is the inspection result normal?

YES >> Replace remote keyless entry receiver. Refer to DLK-199, "Removal and Installation".
NO >> Repair or replace harness.

3. Remove hood hinge to hood nuts (A) and then remove the hood assembly (1).



INSTALLATION

Installation is in the reverse order of removal.

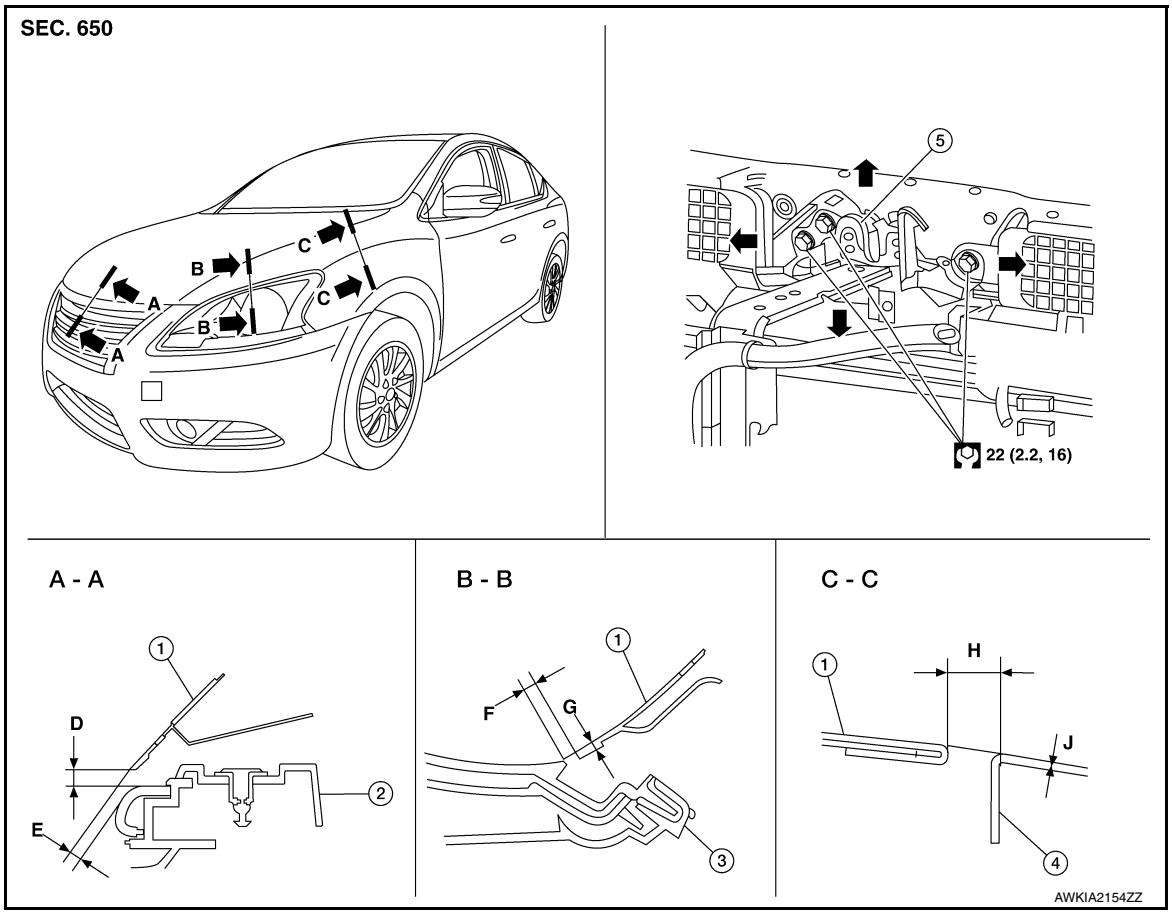
Tighten hood hinge to hood nuts to specified torque. Refer to DLK-149, "HOOD ASSEMBLY : Exploded View".

CAUTION:

- **Before installing the hood hinge, apply anticorrosive agent onto the surface of the vehicle.**
- **After installation, perform the hood assembly adjustment procedure. Refer to DLK-150, "HOOD ASSEMBLY : Adjustment".**

HOOD ASSEMBLY : Adjustment

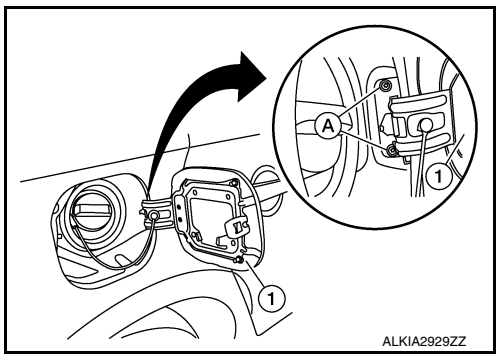
INFOID:0000000009756466



1. Hood assembly
2. Front grille
3. Front combination lamp
4. Front fender
5. Hood lock assembly

Check the clearance and the surface height between hood and each part by visual inspection and tactile feel. If the clearance and the surface height are out of specification, adjust them according to the adjustment procedures.

3. Remove fuel filler lid screws (A) and fuel filler lid (1).



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

After installation, check fuel filler lid assembly open/close, lock/unlock operation.

NOTE:

- The following table shows the specifications for a correctly installed fuel filler lid.
- Fitting adjustment cannot be performed.

Unit: mm (in)

Portion	Measurement	Standard
Fuel filler lid – Body side outer	Clearance	5.1 ±1.0 (0.20 ±0.04)
Fuel filler lid – Body side outer	Surface height	0.0 ±1.0 (0.0 ±0.04)

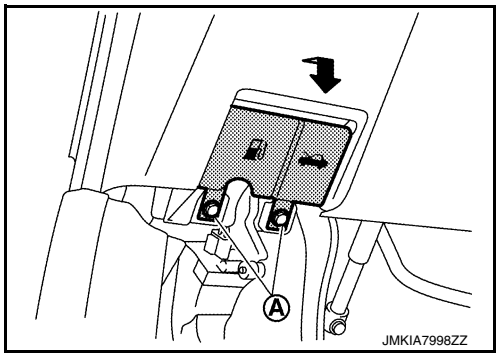
FUEL FILLER OPENER CABLE

FUEL FILLER OPENER CABLE : Removal and Installation

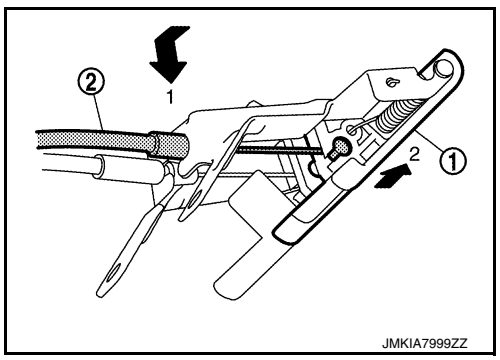
INFOID:0000000009756504

REMOVAL

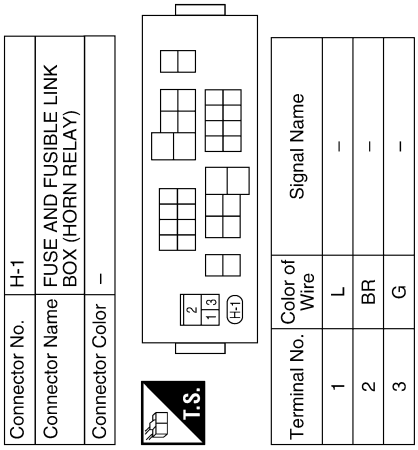
1. Remove hood and fuel filler handle assembly bolts (A).



2. Release fuel filler lid opener cable (2) by pulling downward and then sliding cable end to the side to remove from hood and fuel filler handle assembly (1).



3. Remove dash side finisher (LH). Refer to IP-14, "Removal and Installation".
4. Remove center pillar lower finisher (LH). Refer to INT-27, "CENTER PILLAR LOWER FINISHER : Removal and Installation".



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HORN FUNCTION

Description

INFOID:0000000009756591

Perform answer-back for each operation with horn.

Component Function Check

INFOID:0000000009756592

1.CHECK FUNCTION

1. Select HORN in “ACTIVE TEST” mode with CONSULT.
2. Check the horn operation.

Test item		Description	
HORN	ON	Horn relay	ON (for 20 ms)

Is the operation normal?

YES >> Inspection End.
NO >> Refer to DLK-273, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009756593

Regarding Wiring Diagram information, refer to DLK-224, "Wiring Diagram".

1.CHECK HORN FUNCTION

Check horn function with horn switch.

Does the horn sound?

YES >> GO TO 2
NO >> Refer to HRN-3, "Wiring Diagram".

2.CHECK HORN RELAY POWER SUPPLY

1. Turn ignition switch ON.
2. Perform “ACTIVE TEST” (“HORN”) with CONSULT.
3. Using an oscilloscope or analog voltmeter to check voltage between IPDM E/R connector and ground.

IPDM E/R		Ground	Test item		Voltage (V) (Approx.)
Connector	Terminal				
E46	48	Ground	HORN	ON	Battery voltage → 0 → Battery voltage
				Other than above	Battery voltage

Is the inspection result normal?

YES >> Repair or replace open harness between IPDM E/R and horn relay.
NO >> GO TO 3

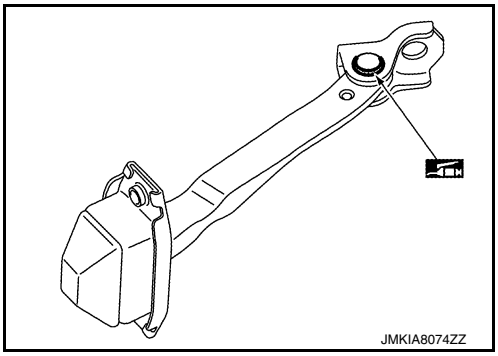
3.CHECK HORN RELAY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R and horn relay connector.
3. Check continuity between IPDM E/R harness connector and horn relay harness connector.

IPDM E/R		Horn relay		Continuity
Connector	Terminal	Connector	Terminal	
E46	48	H-1	1	Yes

4. Check continuity between IPDM E/R harness connector and ground.

: Grease



Connector No.	E16
Connector Name	ECM
Connector Color	GRAY

Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H

Terminal No.	Color of Wire	Signal Name
95G	P	–
100G	L	–

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1A	P	–
2A	L	–

Connector No.	E64
Connector Name	WIRE TO WIRE
Connector Color	BLACK

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7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is a malfunctioning part detected?

YES >> GO TO 8.
NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement.
3. Check DTC. If DTC is displayed, erase it.

>> GO TO 9.

9. FINAL CHECK

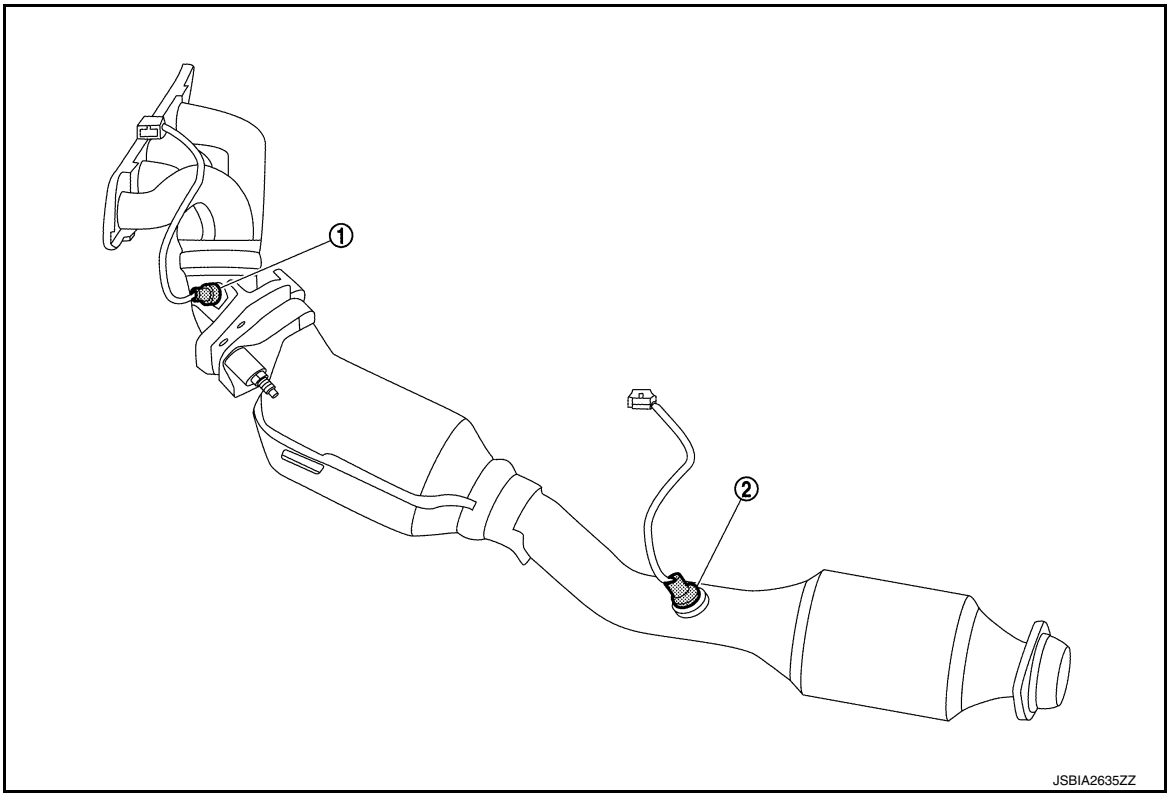
When DTC was detected in step 3, perform DTC CONFIRMATION PROCEDURE or Component Function Check again, and then check that the malfunction have been completely repaired.
When symptom was described from the customer, refer to confirmed symptom in step 4 or 5, and check that the symptom is not detected.

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.
YES-2 >> Symptom remains: GO TO 4.
NO >> Before returning the vehicle to the customer, always erase DTC.

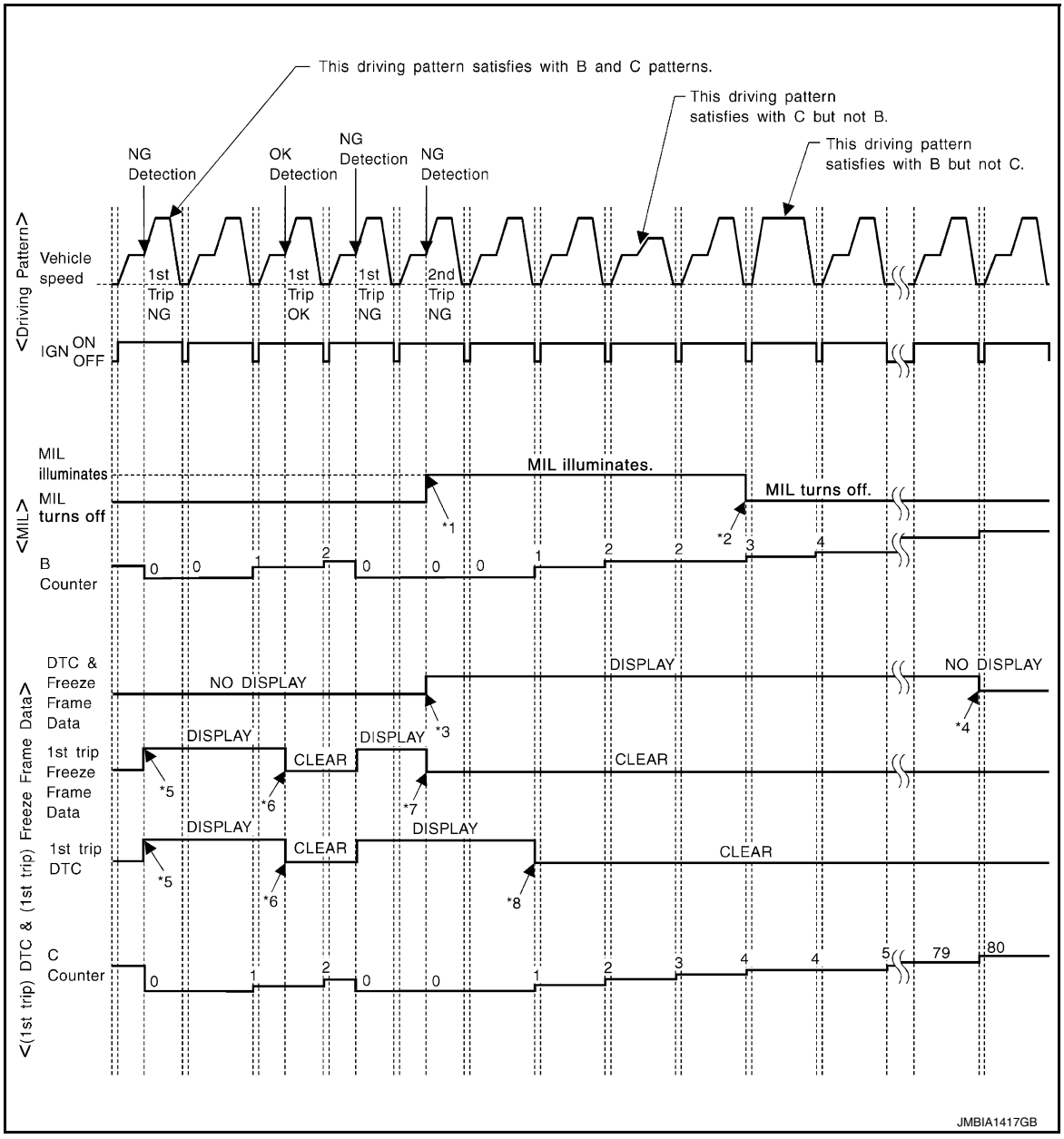
No.	Component	Function
④	Engine oil temperature sensor	EC-24, "Engine Oil Temperature Sensor"
⑤	Crankshaft position sensor (POS)	EC-21, "Crankshaft Position Sensor (POS)"
⑥	Engine oil pressure sensor	EC-23, "Engine Oil Pressure Sensor"
⑦	Engine coolant temperature sensor	EC-23, "Engine Coolant Temperature Sensor"
⑧	Camshaft position sensor (PHASE)	EC-21, "Camshaft Position Sensor (PHASE)"
⑨	Exhaust valve timing control position sensor	EC-25, "Exhaust Valve Timing Control Position Sensor"
⑩	Ignition coil (with power transistor)	EC-27, "Ignition Coil with Power Transistor"
⑪	Exhaust valve timing control solenoid valve	EC-25, "Exhaust Valve Timing Control Solenoid Valve"
⑫	Intake valve timing control solenoid valve	EC-27, "Intake Valve Timing Control Solenoid Valve"

EXHAUST COMPARTMENT



No.	Component	Function
①	Air fuel ratio (A/F) sensor 1	EC-19, "Air Fuel Ratio (A/F) Sensor 1"
②	Heated oxygen sensor 2	EC-26, "Heated Oxygen Sensor 2"

BODY COMPARTMENT



*1: When the same malfunction is detected in two consecutive trips, MIL will light up.

*2: MIL will turn OFF after vehicle is driven 3 times (pattern B) without any malfunctions.

*3: When the same malfunction is detected in two consecutive trips, the DTC and the freeze frame data will be stored in ECM.

*4: The DTC and the freeze frame data will not be displayed any longer after vehicle is driven 80 times (pattern C) without the same malfunction. (The DTC and the freeze frame data still remain in ECM.)

*5: When a malfunction is detected for the first time, the 1st trip DTC and the 1st trip freeze frame data will be stored in ECM.

*6: The 1st trip DTC and the 1st trip freeze frame data will be cleared at the moment OK is detected.

*7: When the same malfunction is detected in the 2nd trip, the 1st trip freeze frame data will be cleared.

*8: 1st trip DTC will be cleared when vehicle is driven once (pattern C) without the same malfunction after DTC is stored in ECM.

Explanation for Driving Patterns for “Misfire <Exhaust Quality Deterioration>”, “Fuel Injection System”

Driving Pattern B
Refer to EC-60, "DIAGNOSIS DESCRIPTION : Driving Pattern".

Item	OBD-MID	Self-diagnostic test item	DTC	Test value and Test limit (GST display)		Description
				TID	Unit and Scaling ID	
HO2S	02H	Heated oxygen sensor 2 (Bank 1)	P0138	07H	0CH	Minimum sensor output voltage for test cycle
			P0137	08H	0CH	Maximum sensor output voltage for test cycle
			P0138	80H	0CH	Sensor output voltage
			P0139	81H	0CH	Difference in sensor output voltage
			P0139	82H	11H	Rear O2 sensor delay response diagnosis
	03H	Heated oxygen sensor 3 (Bank 1)	P0143	07H	0CH	Minimum sensor output voltage for test cycle
			P0144	08H	0CH	Maximum sensor output voltage for test cycle
			P0146	80H	0CH	Sensor output voltage
			P0145	81H	0CH	Difference in sensor output voltage
	05H	Air fuel ratio (A/F) sensor 1 (Bank 2)	P0151	83H	0BH	Minimum sensor output voltage for test cycle
			P0151	84H	0BH	Maximum sensor output voltage for test cycle
			P0150	85H	0BH	Minimum sensor output voltage for test cycle
			P0150	86H	0BH	Maximum sensor output voltage for test cycle
			P0153	87H	04H	Response rate: Response ratio (lean to rich)
			P0153	88H	04H	Response rate: Response ratio (rich to lean)
			P2A03 or P2098	89H	84H	The amount of shift in air fuel ratio (too lean)
			P2A03 or P2099	8AH	84H	The amount of shift in air fuel ratio (too rich)
			P0150	8BH	0BH	Difference in sensor output voltage
			P0153	8CH	83H	Response gain at the limited frequency
			P014E	8DH	04H	O2 sensor slow response - Rich to lean bank 2 sensor 1
			P014E	8EH	04H	O2 sensor slow response - Rich to lean bank 2 sensor 1
			P014F	8FH	84H	O2 sensor slow response - Lean to rich bank 2 sensor 1
			P014F	90H	84H	O2 sensor slow response - Lean to rich bank 2 sensor 1
			P015C	91H	01H	O2 sensor delayed response - Rich to lean bank 2 sensor 1
			P015C	92H	01H	O2 sensor delayed response - Rich to lean bank 2 sensor 1
			P015D	93H	01H	O2 sensor delayed response - Lean to rich bank 2 sensor 1

IDLE AIR VOLUME LEARNING

Description

INFOID:0000000009758407

Idle Air Volume Learning is a function of ECM to learn the idle air volume that keeps each engine idle speed within the specific range. It must be performed under any of the following conditions:
- Each time electric throttle control actuator or ECM is replaced.
- Idle speed or ignition timing is out of specification.

Work Procedure

INFOID:0000000009758408

1.PRECONDITIONING

Make sure that all of the following conditions are satisfied.
Learning will be cancelled if any of the following conditions are missed for even a moment.
- Battery voltage: More than 11.6 V (At idle)
- Engine coolant temperature: 70 - 100°C (158 - 212°F)
- Selector lever: P or N (CVT), Neutral (M/T)
- Electric load switch: OFF
  (Air conditioner, headlamp, rear window defogger)
  On vehicles equipped with daytime running light systems, set lighting switch to the 1st position to light only small lamps.
- Steering wheel: Neutral (Straight-ahead position)
- Vehicle speed: Stopped
- Transmission: Warmed-up

- CVT models
- With CONSULT: Drive vehicle until “ATF TENP SEN” in “DATA MONITOR” mode of “CVT” system indicates less than 0.9 V.
- Without CONSULT: Drive vehicle for 10 minutes.

- M/T models
- Drive vehicle for 10 minutes.

Do you have CONSULT?

YES >> GO TO 2.
NO >> GO TO 3.

2.IDLE AIR VOLUME LEARNING

With CONSULT
1. Perform Accelerator Pedal Released Position Learning. Refer to EC-138, "Work Procedure".
2. Perform Throttle Valve Closed Position Learning. Refer to EC-139, "Work Procedure".
3. Start engine and warm it up to normal operating temperature.
4. Select “IDLE AIR VOL LEARN” in “WORK SUPPORT” mode of “ENGINE”.
5. Touch “START” and wait 20 seconds.

Is “CMPLT” displayed on CONSULT screen?

YES >> GO TO 4.
NO >> GO TO 5.

3.IDLE AIR VOLUME LEARNING

Without CONSULT
NOTE:
- **It is better to count the time accurately with a clock.**
- **It is impossible to switch the diagnostic mode when an accelerator pedal position sensor circuit has a malfunction.**

1. Perform Accelerator Pedal Released Position Learning. Refer to EC-138, "Work Procedure".
2. Perform Throttle Valve Closed Position Learning. Refer to EC-139, "Work Procedure".
3. Start engine and warm it up to normal operating temperature.
4. Turn ignition switch OFF and wait at least 10 seconds.
5. Confirm that accelerator pedal is fully released, turn ignition switch ON and wait 3 seconds.
6. Repeat the following procedure quickly five times within 5 seconds.

- Fully depress the accelerator pedal.
- Fully release the accelerator pedal.

+		+		
IVT control solenoid valve		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
F33	1	E45	26	Existed

4. Also check harness for short to ground.

Is the inspection result normal?

YES >> Perform the trouble diagnosis for power supply circuit.
NO >> Repair or replace error-detected parts.

3.CHECK INTAKE VALVE TIMING CONTROL SOLENOID VALVE GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect ECM harness connector.
3. Check the continuity between IVT control solenoid valve harness connector and ECM harness connector.

+		+		
IVT control solenoid valve		ECM		Continuity
Connector	Terminal	Connector	Terminal	
F33	2	F25	93	Existed

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

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace error-detected parts.

4.CHECK INTAKE VALVE TIMING CONTROL SOLENOID VALVE

Check the intake valve timing control solenoid valve. Refer to EC-181, "Component Inspection (IVT Control Solenoid Valve)".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
NO >> Replace intake valve timing control solenoid valve. Refer to EM-48, "Exploded View".

Component Inspection (IVT Control Solenoid Valve)

INFOID:0000000009758442

1.CHECK INTAKE VALVE TIMING CONTROL SOLENOID VALVE-1

1. Turn ignition switch OFF.
2. Disconnect intake valve timing control solenoid valve harness connector.
3. Check resistance between intake valve timing control solenoid valve terminals as per the following.

Intake valve timing control solenoid valve		Resistance
+	–	
Terminal		
1	2	6.7 - 7.7 Ω [at 20°C (68°F)]
1	Ground	∞ Ω (Continuity should not exist)
2		

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace intake valve timing control solenoid valve. Refer to EM-48, "Exploded View".

2.CHECK INTAKE VALVE TIMING CONTROL SOLENOID VALVE-2

1. Remove intake valve timing control solenoid valve. Refer to EM-48, "Exploded View".

Check the voltage between ECM harness connector and ground as per the following condition.

ECM			Condition	Voltage
Connector	+	–		
	Terminal			
F24	22	23	Coasting from 80 km/h (50 MPH) in D position (CVT), 5th gear position (6MT)	The voltage should be above 0.72 V at least once during this procedure.

Is the inspection result normal?

YES >> INSPECTION END
NO >> Proceed to EC-222, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009758484

1.CLEAR THE MIXTURE RATIO SELF-LEARNING VALUE

1. Clear the mixture ratio self-learning value. Refer to EC-142, "Work Procedure".
2. Run engine for at least 10 minutes at idle speed.

Is the 1st trip DTC P0171 detected? Is it difficult to start engine?

YES >> Perform trouble diagnosis for DTC P0171. Refer to EC-246, "DTC Logic".
NO >> GO TO 2.

2.CHECK HO2S2 GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect heated oxygen sensor 2 (HO2S2) harness connector.
3. Disconnect ECM harness connector.
4. Check the continuity between HO2S2 harness connector and ECM harness connector.

+		–		Continuity
HO2S2		ECM		
Connector	Terminal	Connector	Terminal	
F43	1	F24	23	Existed

5. Also check harness for short to power.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace error-detected parts.

3.CHECK HO2S2 INPUT SIGNAL CIRCUIT

1. Check the continuity between HO2S2 harness connector and ECM harness connector.

+		–		Continuity
HO2S2		ECM		
Connector	Terminal	Connector	Terminal	
F43	2	F24	22	Existed

2. Check the continuity between HO2S2 harness connector and ground, or ECM harness connector and ground.

+		–	Continuity
HO2S2			
Connector	Terminal		
F43	2	Ground	Not existed

CAUTION:
Never turn ignition switch OFF during idling.

4. Check 1st trip DTC.

Is 1st trip DTC detected?

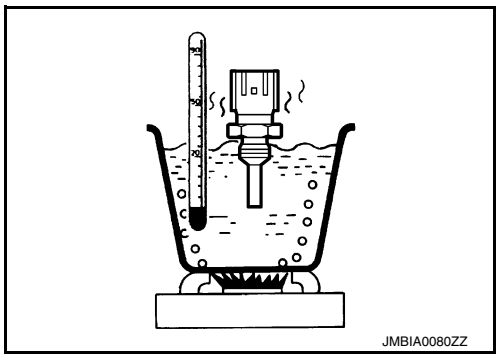
YES >> Proceed to EC-263, "Diagnosis Procedure".
NO >> INSPECTION END

Component Function Check

INFOID:0000000009758510

1.CHECK ENGINE OIL TEMPERATURE (EOT) SENSOR

1. Turn ignition switch OFF.
2. Disconnect EOT sensor harness connector.
3. Remove EOT sensor. Refer to EM-94, "Exploded View".
4. Check resistance between EOT sensor terminals by heating with hot water as shown in the figure.



EOT sensor		Condition		Resistance (kΩ)
+	–			
Terminal				
1	2	Temperature [°C (°F)]	20 (68)	2.37 – 2.63
			50 (122)	0.68 – 1.00
			90 (194)	0.236 – 0.260

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
NO >> Proceed to EC-263, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009758511

1.CHECK ENGINE OIL TEMPERATURE (EOT) SENSOR

Check EOT sensor. Refer to EC-263, "Component Inspection".

Is the inspection result normal?

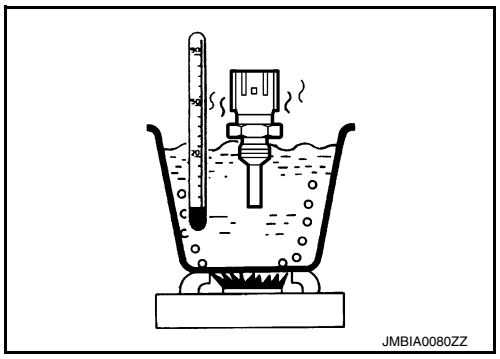
YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
NO >> Replace EOT sensor. Refer to EM-94, "Exploded View".

Component Inspection

INFOID:0000000009758512

1.CHECK ENGINE OIL TEMPERATURE SENSOR

1. Turn ignition switch OFF.
2. Disconnect engine oil temperature sensor harness connector.
3. Remove engine oil temperature sensor.
4. Check resistance between engine oil temperature sensor terminals by heating with hot water as shown in the figure.

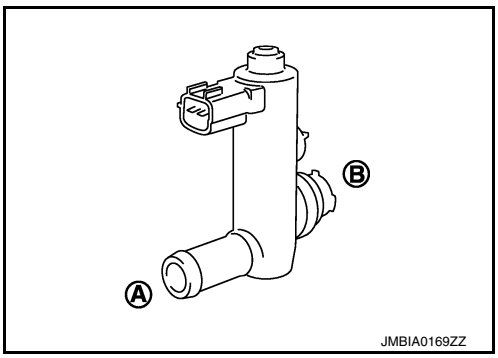


Engine oil temperature sensor		Condition		Resistance (kΩ)
+	–			
Terminal				
1	2	Temperature [°C (°F)]	20 (68)	2.37 - 2.63
			50 (122)	0.68 - 1.00
			90 (194)	0.236 - 0.260

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace engine oil temperature sensor. Refer to EM-94, "Exploded View".

3. Check air passage continuity and operation delay time.
Make sure new O-ring is installed properly.



Condition (VENT CONT/V)	Air passage continuity between Ⓐ and Ⓑ
ON	Not existed
OFF	Existed

Operation takes less than 1 second.

Without CONSULT

1. Clean the air passage [portion Ⓐ to Ⓑ] of EVAP canister vent control valve using an air blower.
2. Check air passage continuity and operation delay time under the following conditions.
Make sure new O-ring is installed properly.

Condition	Air passage continuity between Ⓐ and Ⓑ
12 V direct current supply between terminals 1 and 2	Not existed
OFF	Existed

Operation takes less than 1 second.

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace EVAP canister vent control valve. Refer to FL-15, "Removal and Installation".

5.CHECK CAUSE OF ENGINE OIL CONSUMPTION

Check the following item.

Step	Inspection item	Equipment	Standard	Reference
1	PCV valve	EC-484, "Inspection"		
2	Exhaust front tube	Visual	• No blocking • No abnormal sounds	—
3	Oil pump	LU-16, "Inspection"		
4	• Piston • Piston pin • Piston ring	• Piston to piston pin oil clearance • Piston ring side clearance • Piston ring end gap		EM-112, "Description"
5	Cylinder block	• Cylinder block top surface distortion • Piston to cylinder bore clearance		EM-103, "Inspection"

>> Repair or replace error-detected parts.

Component Inspection (EOP Sensor)

INFOID:0000000009758588

1.CHECK EOP SENSOR

1. Turn ignition switch OFF.
2. Disconnect EOP sensor harness connector.
3. Check the resistance between EOP sensor connector terminals.

EOP sensor		Resistance (kΩ)
+	–	
Terminal		
1	2	4 – 10
	3	2 – 8
2	1	4 – 10
	3	1 – 3
3	1	2 – 8
	2	1 – 3

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace EOP sensor. Refer to EM-94, "Exploded View".

P1556, P1557 BATTERY TEMPERATURE SENSOR

DTC Logic

INFOID:0000000009758640

DTC DETECTION LOGIC

NOTE:
If DTC P1556 or P1557 is displayed with DTC P0643, first perform the trouble diagnosis for DTC P0643. Refer to EC-353, "DTC Logic".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detecting condition	Possible cause
P1556	BAT TMP SEN/CIRC (BAT TMP SEN/CIRC)	Signal voltage from Battery temperature sensor remains 0.16V or less for 5 seconds or more.	• Harness or connectors [Battery current sensor (Battery temperature sensor) circuit is shorted.] • Battery current sensor (Battery temperature sensor)
P1557	BAT TMP SEN/CIRC (BAT TMP SEN/CIRC)	Signal voltage from Battery temperature sensor remains 4.84V or more for 5 seconds or more.	

DTC CONFIRMATION PROCEDURE

1.PRECONDITIONING

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.

TESTING CONDITION:
Before performing the following procedure, confirm that battery voltage is 10 V or more at idle.

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine and let it idle at least 10 seconds.
2. Check 1st trip DTC.

Is 1st trip DTC detected?

YES >> Proceed to EC-386, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009758641

1.CHECK BATTERY TEMPERATURE SENSOR POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect battery current sensor harness connector.
3. Turn ignition switch ON.
4. Check the voltage between battery current sensor harness connector and ground.

+		−	Voltage (Approx.)
Battery current sensor			
Connector	Terminal		
F54	2	Ground	5 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

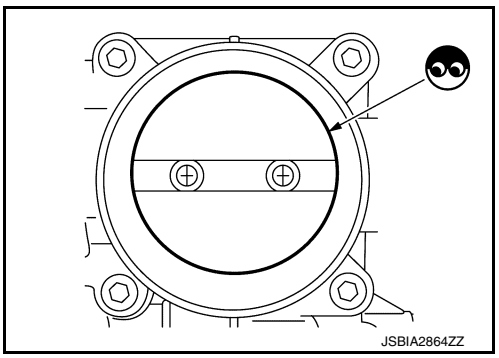
2.CHECK BATTERY TEMPERATURE SENSOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect ECM harness connector.
3. Check the continuity between battery current sensor harness connector and ECM harness connector.

2. Check if foreign matter is caught between the throttle valve and the housing.

Is the inspection result normal?

YES >> GO TO 6.
NO >> Remove the foreign matter and clean the electric throttle control actuator inside, then perform throttle valve closed position learning. Refer to EC-139, "Work Procedure".



6. CHECK THROTTLE CONTROL MOTOR

Check the throttle control motor. Refer to EC-429, "Component Inspection (Throttle Control Motor)".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
NO >> Replace electric throttle control actuator. Refer to EM-27, "Removal and Installation".

Component Inspection (Throttle Control Motor)

INFOID:0000000009758683

1. CHECK THROTTLE CONTROL MOTOR

1. Turn ignition switch OFF.
2. Disconnect electric throttle control actuator harness connector.
3. Check the resistance between electric throttle control actuator terminals as per the following.

Electric throttle control actuator		Condition		Resistance (Approx.)
+	–			
Terminals				
5	6	Temperature °C (°F)	25 (77)	1 - 15 Ω

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace electric throttle control actuator. Refer to EM-27, "Removal and Installation".

ON BOARD REFUELING VAPOR RECOVERY (ORVR)

Component Function Check

INFOID:0000000009758728

1.CHECK ORVR FUNCTION

Check whether the following symptoms are present.
- Fuel odor from EVAP canister is strong.
- Cannot refuel/Fuel odor from the fuel filler opening is strong while refueling.

Are any symptoms present?

YES >> Proceed to EC-468, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009758729

1.INSPECTION START

Check whether the following symptoms are present.
A: Fuel odor from EVAP canister is strong.
B: Cannot refuel/Fuel odor from the fuel filler opening is strong while refueling.

A or B

A >> GO TO 2.
B >> GO TO 7.

2.CHECK EVAP CANISTER

1. Remove EVAP canister with EVAP canister vent control valve and EVAP control system pressure sensor attached. Refer to FL-15, "Removal and Installation".
2. Weigh the EVAP canister with EVAP canister vent control valve and EVAP control system pressure sensor attached.
   The weight should be less than 2.1 kg (4.6 lb).

Is the inspection result normal?

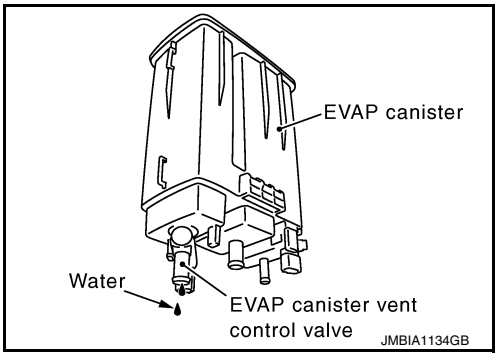
YES >> GO TO 3.
NO >> GO TO 4.

3.CHECK IF EVAP CANISTER IS SATURATED WITH WATER

Check if water will drain from EVAP canister

Does water drain from the EVAP canister?

YES >> GO TO 4.
NO >> GO TO 6.



4.REPLACE EVAP CANISTER

Replace EVAP canister with a new one. Refer to FL-15, "Removal and Installation".

>> GO TO 5.

5.DETECT MALFUNCTIONING PART

Check the EVAP hose between EVAP canister and vehicle frame for clogging or poor connection.

>> Repair or replace EVAP hose. Refer to FL-15, "Removal and Installation".

6.CHECK REFUELING EVAP VAPOR CUT VALVE

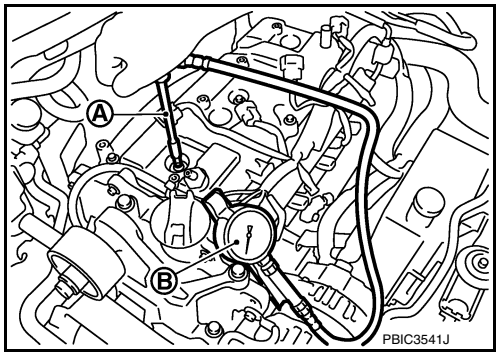
Check refueling EVAP vapor cut valve. Refer to EC-470, "Component Inspection".

COMPRESSION PRESSURE

Inspection

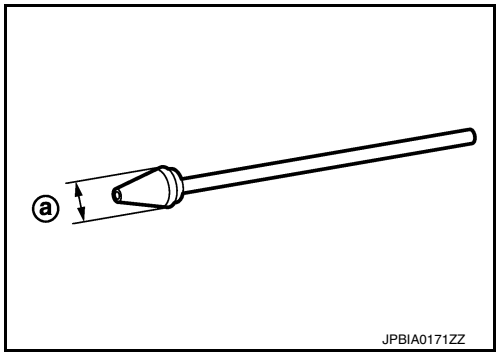
INFOID:0000000009756949

1. Warm up the engine to full operating temperature.
2. Release fuel pressure. Refer to EC-143, "Work Procedure".
3. Remove ignition coil and spark plug from each cylinder. Refer to EM-46, "Exploded View".
4. Connect engine tachometer (not required in use of CONSULT).
5. Install compression gauge (B) with an adapter (A) into spark plug hole.



- Use the adapter whose pick up end inserted to spark plug hole is smaller than 20 mm (0.79 in) in diameter. Otherwise, it may be caught by cylinder head during removal.

(a) : 20 mm (0.79 in) or less



6. With accelerator pedal fully depressed, turn ignition switch to “START” for cranking. When the gauge pointer stabilizes, read the compression pressure and the engine rpm. Perform these steps to check each cylinder.

Compression pressure : Refer to EM-118, "General Specification".

CAUTION:

Always use a fully charged battery to obtain the specified engine speed.

- If the engine speed is out of the specified range, check battery liquid for proper gravity. Check the engine speed again with normal battery gravity.
- If compression pressure is below minimum value, check valve clearances, and parts associated with combustion chamber (valve, valve seat, piston, piston ring, cylinder bore, cylinder head, and cylinder head gasket). After checking, measure compression pressure again.
- If some cylinder has low compression pressure, pour small amount of engine oil into the spark plug hole of the cylinder to recheck it for compression.
  - If the added engine oil improves the compression, piston rings may be worn out or damaged. Check piston rings and replace if necessary.
  - If the compression pressure remains at low level despite the addition of engine oil, valves may be malfunctioning. Check valves for damage. Replace valve or valve seat accordingly.
- If two adjacent cylinders have respectively low compression pressure and their compression remains low even after the addition of engine oil, cylinder head gaskets are leaking. In such a case, replace cylinder head gaskets.

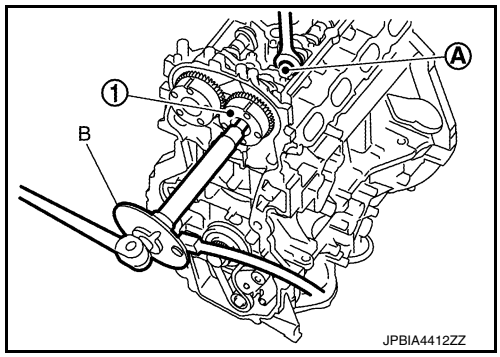
7. After inspection is completed, install removed parts.
8. Start the engine, and check that the engine runs smoothly.
9. Perform trouble diagnosis. If DTC appears, erase it. Refer to EC-55, "Diagnosis Description".

b. Tighten bolts in the following steps.
- Secure the hexagonal part of camshaft using suitable tool to tighten bolt.

CAUTION:
Check the tightening angle using Tool (B). Do not judge by visual inspection.

Step 1 : 35.0 N·m (3.6 kg-m, 26 ft-lb)
Step 2 : 30.5 degrees rotation

Tool number : KV10112100 (BT-8653-A)



(1) : Camshaft sprocket
(A) : Camshaft hexagonal part

5. Install timing chain. Refer to EM-48, "Exploded View".
6. Inspect and adjust valve clearance. Refer to EM-20, "Inspection and Adjustment".
7. Installation of remaining components is in the reverse order of removal.

Inspection

INFOID:0000000009756977

INSPECTION AFTER REMOVAL

Camshaft Runout

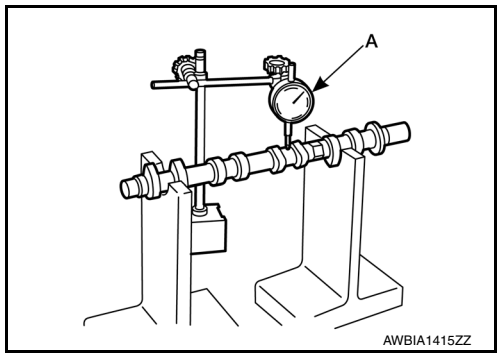
1. Put V-block on a precise flat table, and support No. 2 and 5 journal of camshaft.

CAUTION:
Do not support No. 1 journal (on the side of camshaft sprocket) because it has a different diameter from the other four locations.

2. Set suitable tool (A) vertically to No. 3 journal.
3. Turn camshaft to one direction with hands, and measure the camshaft runout on dial indicator. (Total indicator reading)

Standard and Limit : Refer to EM-119, "Camshaft".

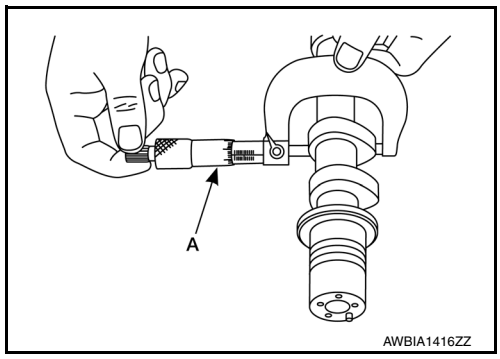
4. If it exceeds the limit, replace camshaft.



Camshaft Cam Height

1. Measure the camshaft cam height using suitable tool (A).

Standard and Limit : Refer to EM-119, "Camshaft".



2. If it exceeds the limit, replace camshaft.

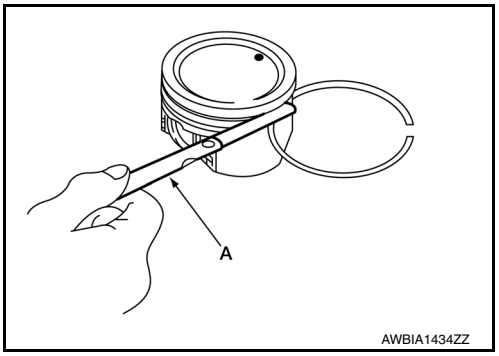
Camshaft Journal Oil Clearance

CAMSHAFT JOURNAL OUTER DIAMETER

- Measure the side clearance of piston ring and piston ring groove using suitable tool (A).

Standard and Limit : Refer to EM-123, "Cylinder Block".

- If the measured value exceeds the limit, replace piston ring, and measure again. If it still exceeds the limit, replace piston also.

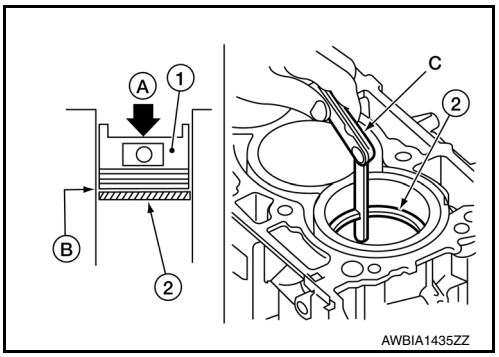


PISTON RING END GAP

- Check that cylinder bore inner diameter is within specification. Refer to “PISTON TO CYLINDER BORE CLEARANCE”.
- Lubricate with new engine oil to piston (1) and piston ring (2), and then insert (A) piston ring until middle of cylinder (B) with piston, and measure piston ring end gap using suitable tool (C).

Standard and Limit : Refer to EM-123, "Cylinder Block".

- If the measured value exceeds the limit, replace piston ring, and measure again. If it still exceeds the limit, rebore cylinder and use oversized piston and piston rings.



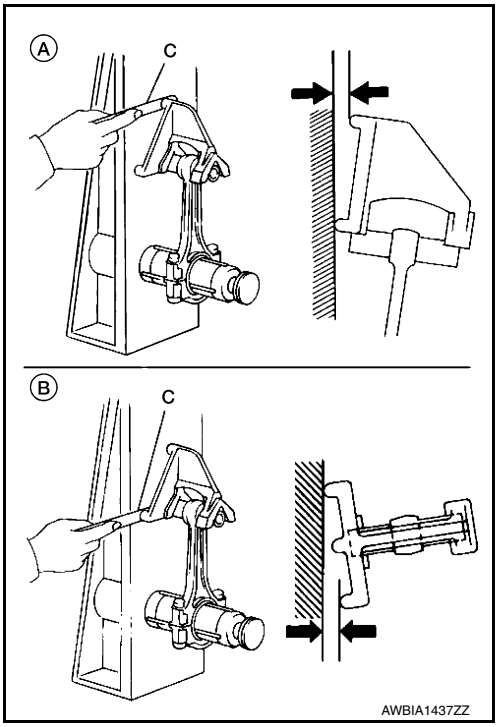
CONNECTING ROD BEND AND TORSION

- Check with a connecting rod aligner.

(A) : Bend
(B) : Torsion
(C) : Feeler gauge

Limit : Refer to EM-123, "Cylinder Block".

- If it exceeds the limit, replace connecting rod assembly.



CONNECTING ROD BIG END DIAMETER

When the combination switch (lighting and turn signal switch) is in LH or RH turn position with the ignition switch in the ON position, the BCM receives input requesting the turn RH or turn LH lamps to illuminate. The BCM controls the turn signal power to the respective turn signal lamp. The BCM also sends a turn indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates the appropriate turn signal indicator and audible buzzer.

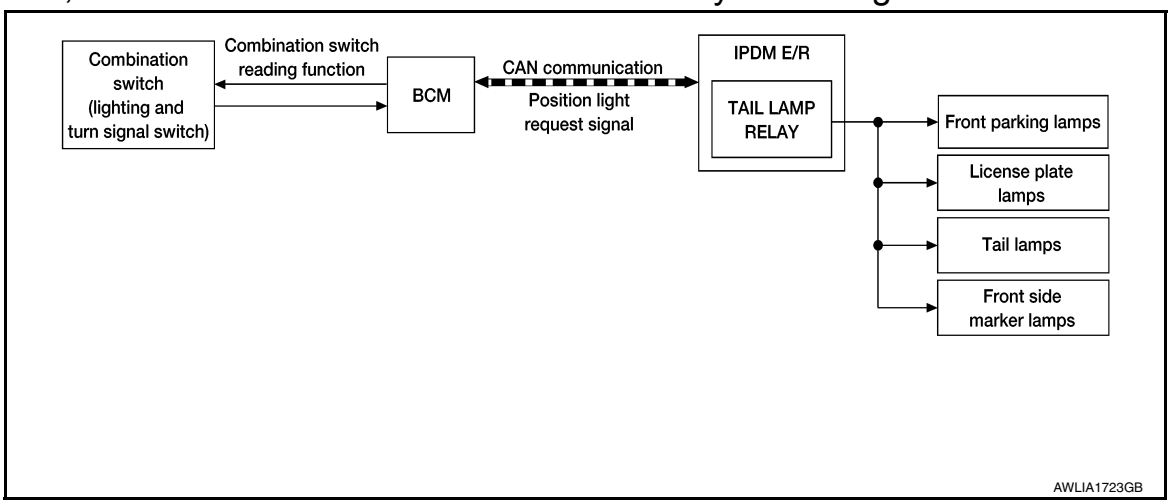
HAZARD LAMP OPERATION

When the hazard switch is in the ON position, the BCM receives input requesting the hazard lamps illuminate. The BCM controls the turn signal power to both the LH and RH turn signal lamps. The BCM sends a hazard indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates both the LH and RH turn signal indicators and audible buzzer.

PARKING, LICENSE PLATE AND TAIL LAMPS

PARKING, LICENSE PLATE AND TAIL LAMPS : System Diagram

INFOID:0000000009757481



PARKING, LICENSE PLATE AND TAIL LAMPS : System Description

INFOID:0000000009757482

PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

When the lighting switch is in 1st or 2nd position, BCM detects the LIGHTING SWITCH 1st or 2nd POSITION ON. The BCM sends a parking light ON request via the CAN communication lines to the IPDM E/R. The IPDM E/R then activates the tail lamp relay which sends power to the parking and instrument illumination circuits.

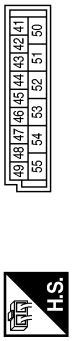
EXTERIOR LAMP BATTERY SAVER CONTROL

With the combination switch (lighting and turn signal switch) in the 1st or 2nd position and the ignition switch is turned from ON or ACC to OFF, the battery saver feature is activated.
Under this condition, the exterior lamps remain illuminated for a period of time unless the lighting switch position is changed. If the lighting switch position is changed, then the exterior lamps are turned off.

COMBINATION SWITCH READING SYSTEM

COMBINATION SWITCH READING SYSTEM : System Diagram (With Intelligent Key

Connector No.	B57
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
45	R	DOOR SW (AS)
46	Y	DOOR SW (DR)
47	GR	DOOR SW (RL)
48	P	DOOR SW (RR)

ABLIA5900GB

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace relay.

5. CHECK DAYTIME LIGHT CIRCUIT (OPEN OR SHORT TO GROUND)

1. Check continuity between the daytime light relay harness connector and the front combination lamp harness connector.

Daytime light relay		Front combination lamp			Continuity
Connector	Terminal		Connector	Terminals	
E30	3	LH	E21	3, 8	Yes
		RH	E20		

2. Check continuity between the daytime light relay harness connector and ground.

Daytime light relay		(–)	Continuity
Connector	Terminal		
E30	3	Ground	No

Is the inspection result normal?

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

6. CHECK DAYTIME LIGHT GROUND CIRCUIT FOR OPEN

1. Disconnect front combination lamp connector in question.
2. Check continuity between the front combination lamp connector and ground.

Connector	Terminal	—	Continuity
LH E21	7	Ground	Yes
RH E20			

Is the inspection result normal?

YES >> Inspect daytime light bulb.
NO >> Repair or replace the harness or connector.

Component Inspection

INFOID:0000000009757515

1. CHECK DAYTIME LIGHT RELAY

1. Turn ignition switch OFF.
2. Remove daytime light relay.
3. Check the continuity between daytime light relay terminals 3 and 5 when voltage is supplied between terminals 1 and 2.

Terminals	Condition	Continuity
3 and 5	12V direct current supply between terminals 1 and 2	Yes
	No current supply	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace daytime light relay.

Assembly is in the reverse order of disassembly.

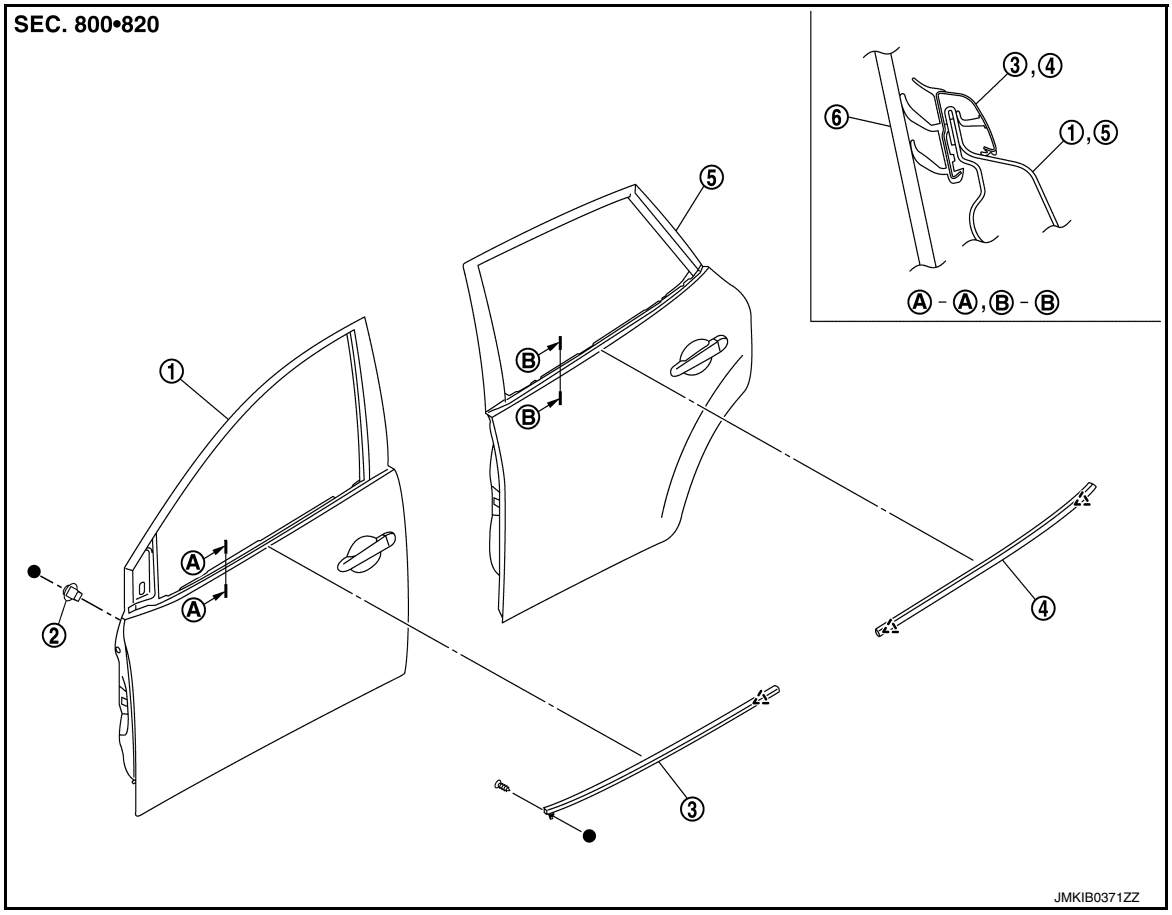
CAUTION:

After installing, be sure to install the bulb sockets securely to ensure watertightness.

DOOR OUTSIDE MOLDING

Exploded View

INFOID:0000000009758056



1. Front door assembly
2. Grommet
3. Front door outside molding
4. Rear door outside molding
5. Rear door assembly
6. Door glass

Clip

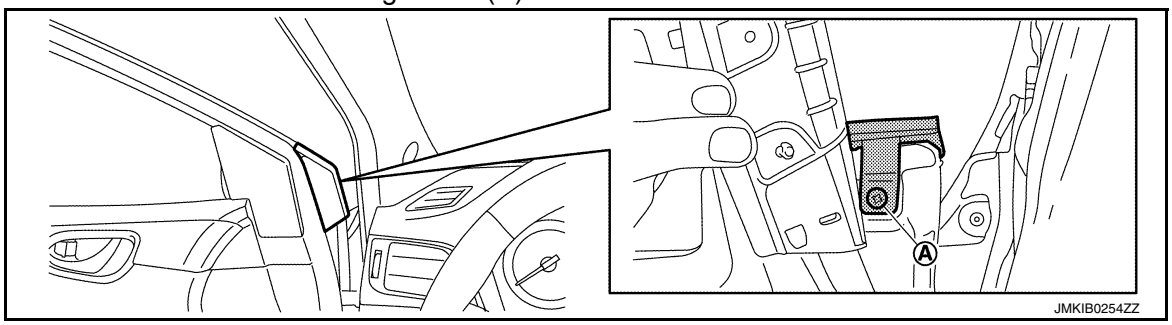
FRONT DOOR OUTSIDE MOLDING

FRONT DOOR OUTSIDE MOLDING : Removal and Installation

INFOID:0000000009758057

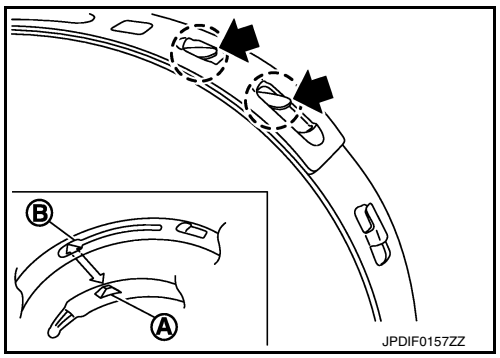
REMOVAL

1. Remove front door mirror. Refer to MIR-18, "DOOR MIRROR ASSEMBLY : Removal and Installation".
2. Remove front door outside molding screw (A).



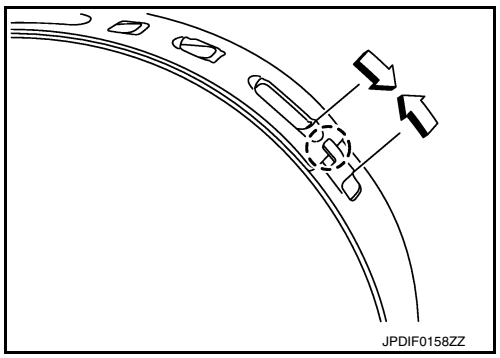
For the large diameter side, fit projection (A) and guide slit (B) at first.

b. Pinch projection on the band with suitable pliers to tighten band.



c. Insert the tip of band into the lower part of pawl (marked with dotted circle) as shown.

12. Attempt to rotate the boot to check whether or not the boot bands are securing the boot. If the boot is not secure, remove the boot bands, reposition the boot, and install new boot bands.

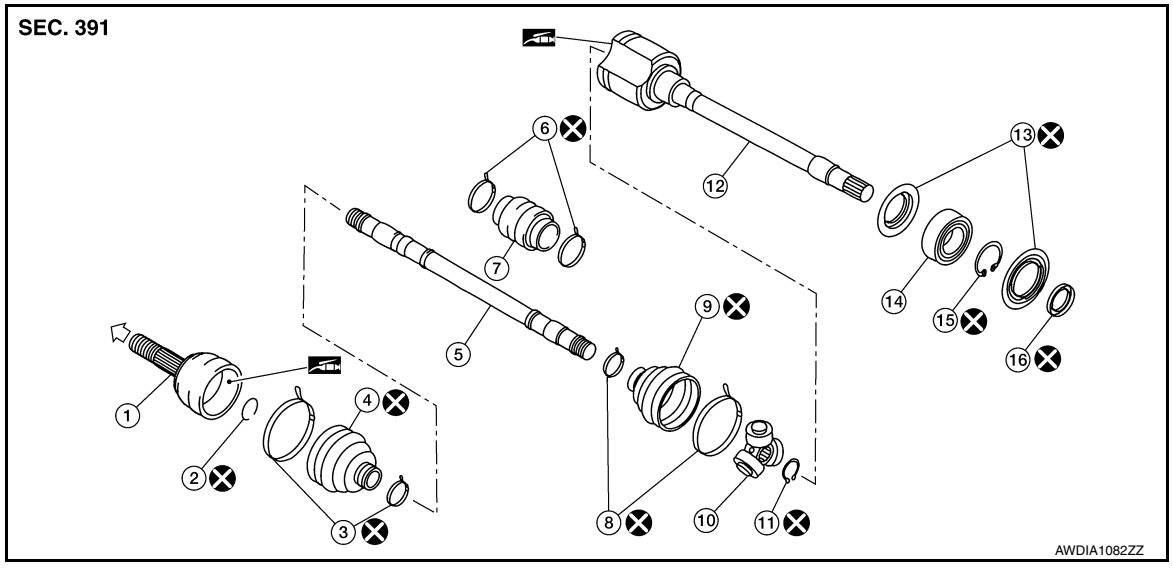


13. Install the dust shield to the slide joint housing.
CAUTION:
Do not reuse the dust shield.

14. Install the circular clip to the slide joint housing.
CAUTION:
Do not reuse the circular clip.

6M/T : Exploded View (RH)

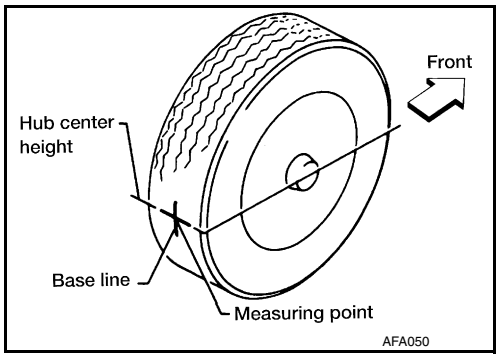
INFOID:0000000009758224



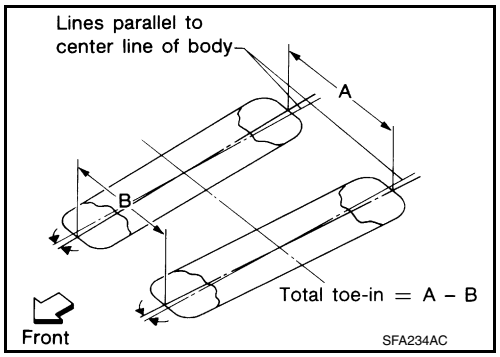
1. Joint sub-assembly	2. Circular clip	3. Boot band
4. Boot	5. Shaft	6. Damper band
7. Dynamic damper	8. Boot band	9. Boot
10. Spider assembly	11. Snap ring	12. Slide joint housing

WARNING:
- **Always perform the following procedure on a flat surface.**
- **Make sure that no person is in front of vehicle before pushing it.**

1. Bounce the front of vehicle up and down to stabilize the vehicle height (posture).
2. Push on the rear wheel to move the vehicle straight ahead about 5 m (16 ft).
3. Put a mark on base line of the tread (rear side) of both tires at the same height of hub center. These are measuring points.



4. Measure the distance (A) from the rear side.
5. Push on the rear wheel to move the vehicle slowly ahead and to rotate the wheels 180 degrees (1/2 turn).
   CAUTION:
   If the wheels have rotated more than 180 degrees (1/2 turn), try the above procedure again from the beginning. Do not push vehicle backward.
6. Measure the distance (B) from the front side.



7. Use the formula below to calculate total toe-in.

Total toe-in : A - B

Total toe-in specification : Refer to FSU-23, "Wheel Alignment (Unladen*1)".

- If the total toe-in is outside the specification, adjust the total toe-in. Refer to FSU-7, "Adjustment".

Adjustment

INFOID:0000000009758752

TOTAL TOE-IN

Loosen the steering outer socket. Adjust the length using the steering inner socket.

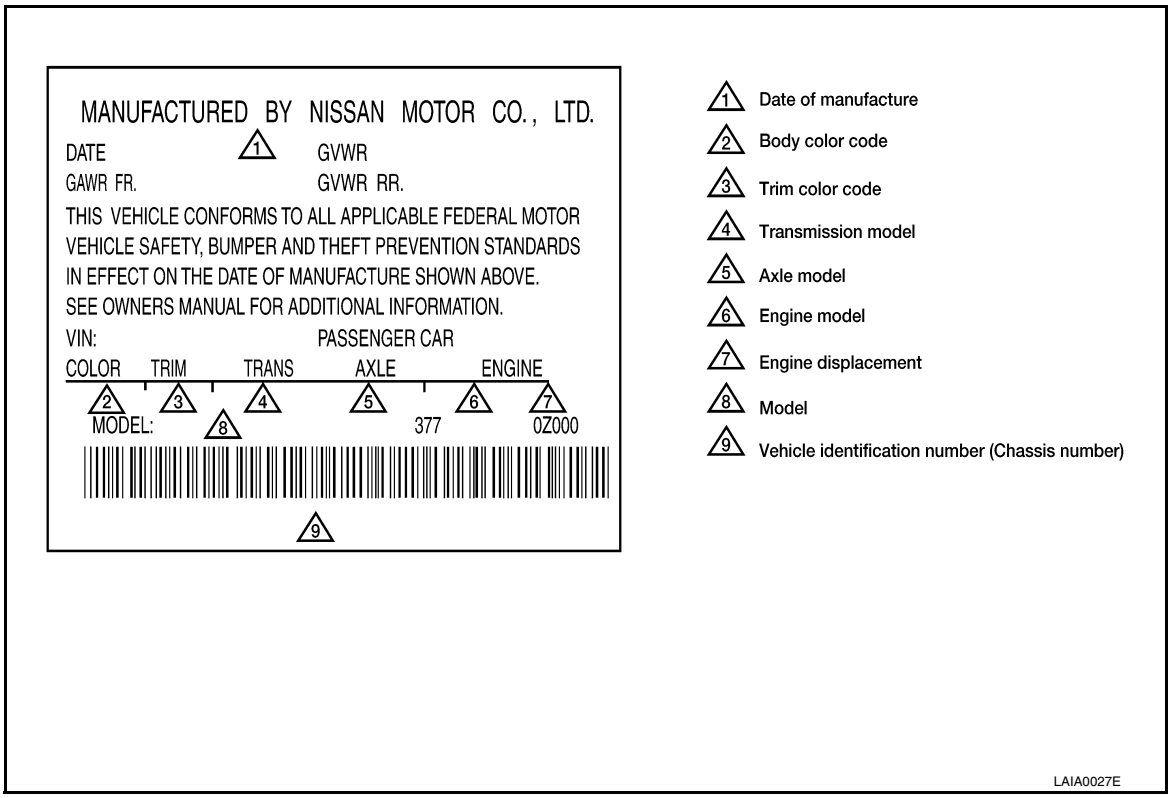
Toe-in : Refer to FSU-23, "Wheel Alignment (Unladen*1)".

CAUTION:
- **Always evenly adjust both toe-in alternately and adjust the difference between the left and right to the standard.**
- **Always hold the steering inner socket when tightening the steering outer socket.**

Position	Character	Qualifier	Definition
12	XXXXX	Vehicle serial number	Chassis number
13			
14			
15			
16			
17			

Identification Plate

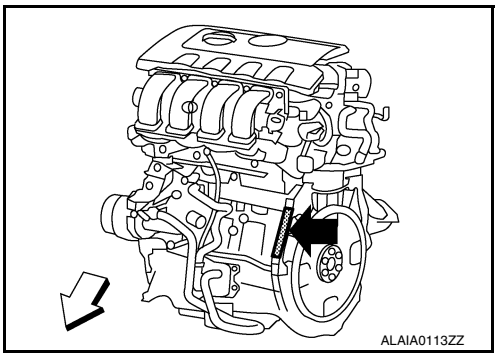
INFOID:0000000009759190



Engine Serial Number

INFOID:0000000009759191

MRA8DE

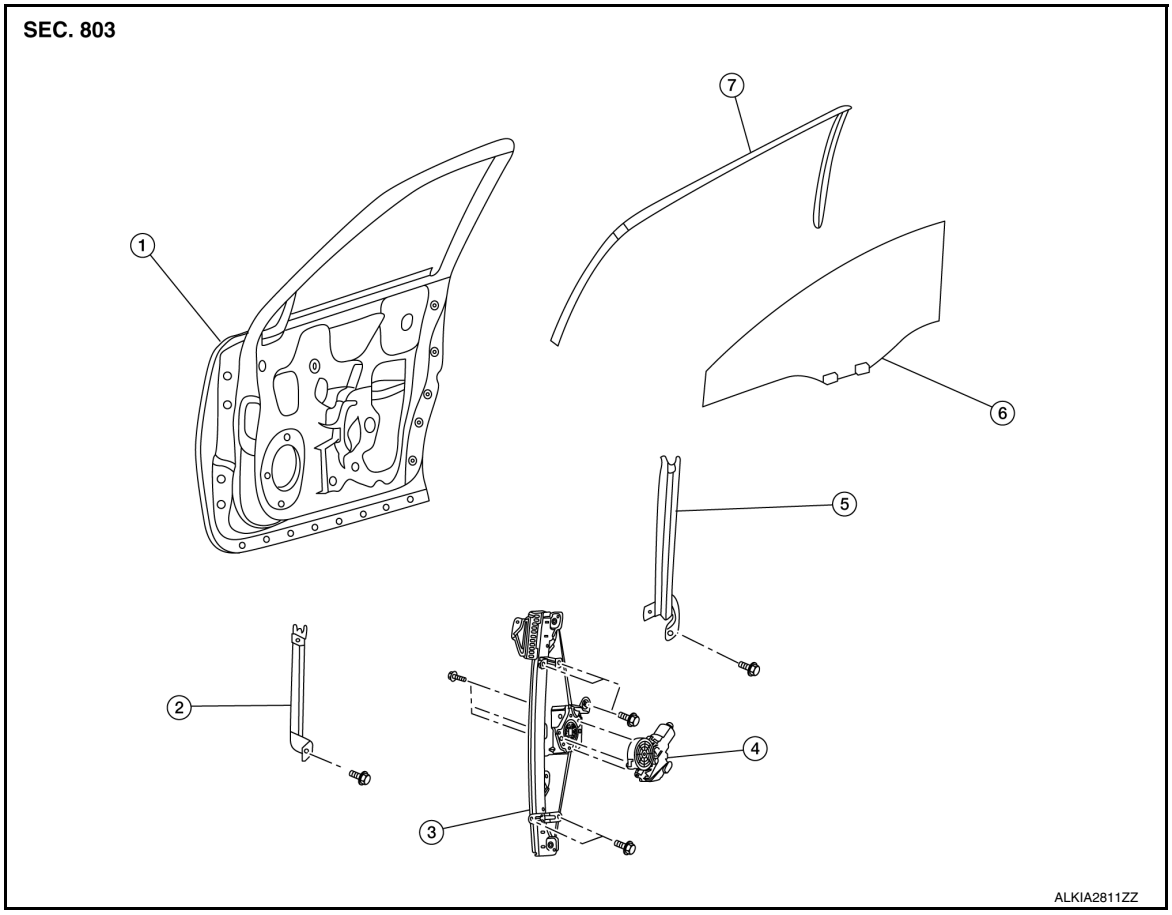


⇦: Vehicle front

FRONT REGULATOR

Exploded View

INFOID:0000000009758188



1. Front door panel
2. Front door glass channel front
3. Front door glass regulator
4. Front door glass regulator motor
5. Front door glass channel rear
6. Front door glass
7. Front door glass rubber run

Removal and Installation

INFOID:0000000009758189

REMOVAL

WARNING:

- **Before servicing, turn ignition switch OFF, disconnect both battery terminals and wait at least three minutes.**
- **Do not use air tools or electric tools for servicing.**

NOTE:

LH front door panel shown; RH side similar.

1. Disconnect the battery positive and negative terminal. Refer to PG-50, "Removal and Installation (Battery)".
2. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
3. Remove the vapor barrier.
   CAUTION:
   Use care to not damage or tear vapor barrier during removal.
4. Temporarily reconnect both battery terminals and the main power window and door lock/unlock switch (LH door) or power window and door lock/unlock switch (RH door) to raise/lower the door glass until the door glass bolts can be seen through the access holes.

Fresh air		High-pressure (Discharge side) kPa (kg/cm^2, psi)	Low-pressure (Suction side) kPa (kg/cm^2, psi)
Relative humidity %	Air temperature °C (°F)		
50 – 70	25 (77)	909 – 1,112 (9.2 – 11.3, 131.8 – 161.2)	159 – 194 (1.6 – 2.0, 23.1 – 28.1)
	30 (86)	1,073 -— 1,312 (10.9 – 13.4, 155.6 – 190.2)	211 – 259 (2.2 – 2.6, 30.6 – 37.6)
	35 (95)	1,445 – 1,766 (14.7 – 18.0, 209.5 – 256.1)	247 – 300 (2.5 – 3.1, 35.8 – 43.5)
	40 (104)	1,650 – 2,017 (16.8 – 20.6, 239.3 – 292.5)	290 – 355 (3.0 – 3.6, 42.1 – 51.5)

DIAGNOSIS SYSTEM (A/C AUTO AMP.)

Description

INFOID:0000000009757629

Air conditioning system performs self-diagnosis, operation check, function diagnosis, and various settings using diagnosis function of each control unit.

ECU	Diagnostic item (CONSULT)	
A/C auto amp.	HVAC	Self Diagnostic Result
		Data Monitor
		Active Test
		Work support
BCM	BCM-AIR CONDITIONER	Self Diagnostic Result
		Data Monitor
ECM	ENGINE	Self Diagnostic Result
		Data Monitor
IPDM E/R	IPDM E/R	Self Diagnostic Result
		Data Monitor
	Auto active test	

CONSULT Function (HVAC)

INFOID:0000000009757630

CONSULT can display each diagnosis item using the diagnosis test modes as shown.

CONSULT application items

Diagnosis mode	Description
Self-Diagnostic Result	Displays the diagnosis results judged by A/C auto amp.
Data Monitor	Displays A/C auto amp. input/output data in real time.
Work support	Changes the setting for each system function.
Active Test	The signals used to activate each device are forcibly supplied from A/C auto amp.
ECU Identification	Displays the A/C auto amp. number.

SELF-DIAGNOSTIC RESULT

Refer to HAC-38, "DTC Index".

Display Item List

DTC	Items (CONSULT screen terms)	Diagnostic item is detected when...	Possible cause
U1000	CAN COMM CIRCUIT	When A/C auto amp. is not transmitting or receiving CAN communication signal for 2 or more seconds.	CAN communication system
U1010	CONTROL UNIT (CAN)	When detecting error during the initial diagnosis of CAN controller of A/C auto amp.	A/C auto amp.
B257B	AMB TEMP SEN (SHORT)	Detected temperature at ambient sensor 55°C (131°F) or more	• Ambient sensor • A/C auto amp. • Harness and connector (Ambient sensor circuit is open, or there is a short in the circuit)
B257C	AMB TEMP SEN (OPEN)	Detected temperature at ambient sensor −30°C (−22°F) or less	
B2578	IN-CAR SENSOR (OUT OF RANGE [LOW])	Detected temperature at in-vehicle sensor 55°C (131°F) or more	• In-vehicle sensor • A/C auto amp. • Harness and connector (In-vehicle sensor circuit is open, or there is a short in the circuit)
B2579	IN-CAR SENSOR (OUT OF RANGE [HI])	Detected temperature at in-vehicle sensor −30°C (−22°F) or less	

3. Check resistance between ambient sensor terminals.

Terminal		Condition	Resistance: kΩ
		Temperature: °C (°F)	
1	2	−15 (5)	12.73
		−10 (14)	9.92
		−5 (23)	7.80
		0 (32)	6.19
		5 (41)	4.95
		10 (50)	3.99
		15 (59)	3.24
		20 (68)	2.65
		25 (77)	2.19
		30 (86)	1.81
		35 (95)	1.51
		40 (104)	1.27
		45 (113)	1.07

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace ambient sensor. Refer to HAC-106, "Removal and Installation".

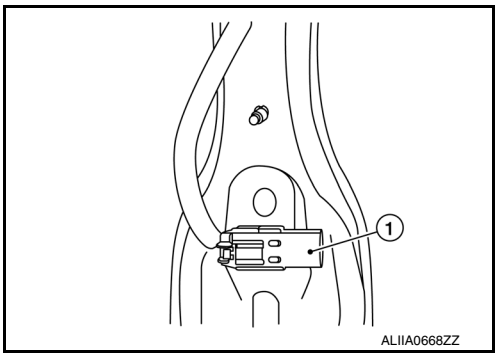
AMBIENT SENSOR

Removal and Installation

INFOID:0000000009757704

REMOVAL

1. Remove the front under cover. Refer to EXT-30, "FRONT UNDER COVER : Removal and Installation".
2. Disconnect the harness connector from the ambient sensor.
3. Release the ambient sensor clip, then remove the ambient sensor (1).



INSTALLATION

Installation is in the reverse order of removal.

Connector No.	M33
Connector Name	A/C AUTO AMP. (WITHOUT AUTO A/C)
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
1	GR	ECV
2	–	–
3	L	INTAKE SENS
4	–	–
5	–	–
6	–	–
7	–	–
8	–	–
9	–	–
10	P	SENS GND
11	LG	IGN 1
12	SB	BAT
13	V	BLOWER PWM
14	LG	FAN ON O/P
15	Y	A/C ON O/P
16	W	RR DEF SW O/P
17	BR	R MIX4
18	SB	R MIX3
19	LG	R MIX2
20	L	R MIX1
21	W	IGN 2
22	–	–
23	P	PD CUT
24	–	–
25	R	RR DEF IND
26	–	–
27	LG	UART RX
28	BR	UART TX
29	–	–
30	B	GND
31	–	–
32	–	–
33	–	–
34	–	–
35	G	FRESH
36	V	REC
37	GR	MODE 4
38	G	MODE 3
39	Y	MODE 2
40	O	MODE 1

Connector No.	M48
Connector Name	INTAKE DOOR MOTOR (WITHOUT AUTO A/C)
Connector Color	BLACK

H.S.

1	2	3	4	5	6

Terminal No.	Color of Wire	Signal Name
2	G	–
6	V	–

Connector No.	M51
Connector Name	A/C SWITCH ASSEMBLY (WITHOUT AUTO A/C)
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
1	W	–
5	LG	–
9	B	–
13	BR	–

Connector No.	M52
Connector Name	VARIABLE BLOWER CONTROL
Connector Color	WHITE

H.S.

1	2
3	4

Terminal No.	Color of Wire	Signal Name
1	L	–
2	V	–
3	B	–
4	P	–

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REMOVAL AND INSTALLATION

A/C ASSEMBLY SWITCH

Removal and Installation

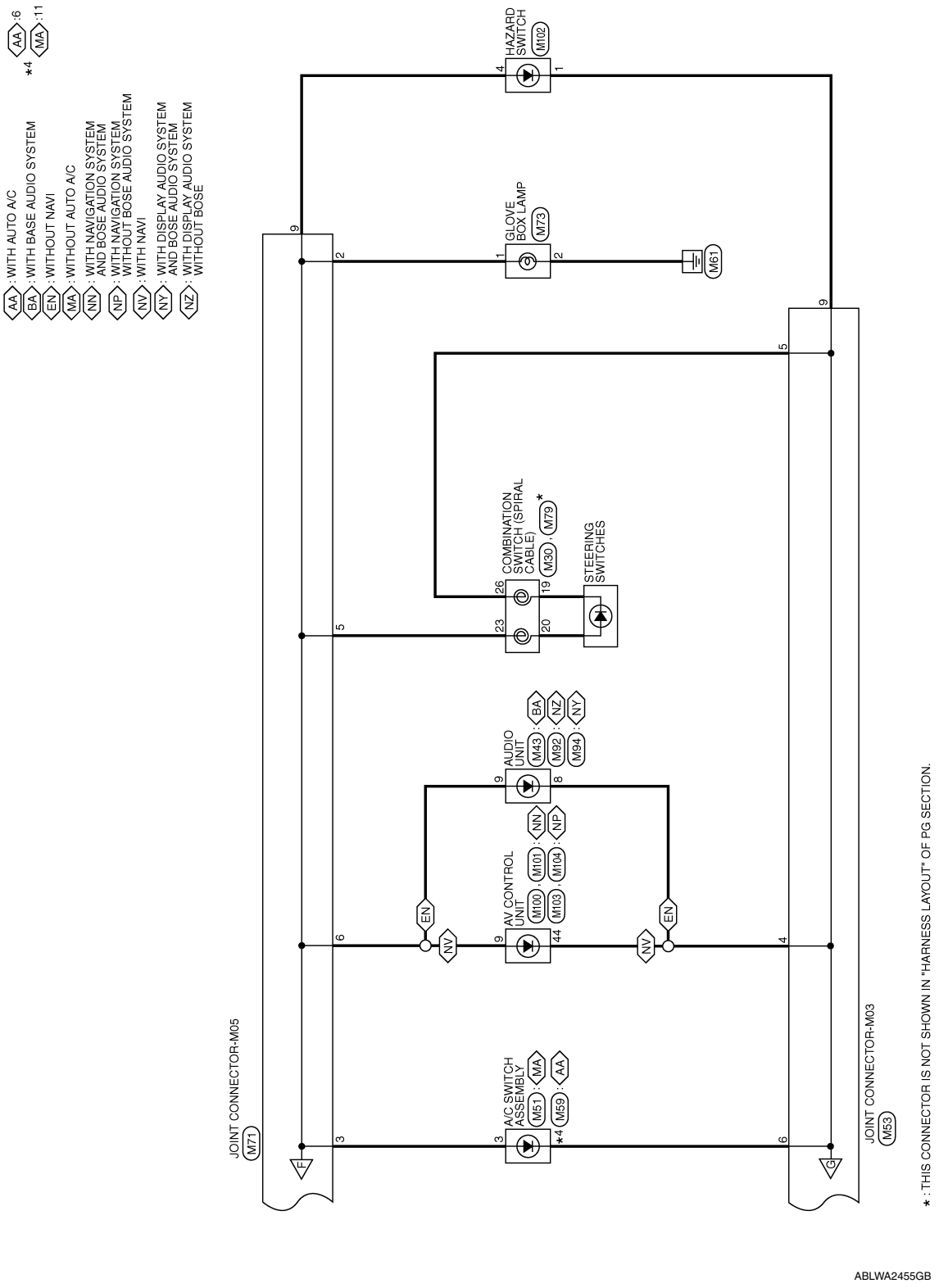
INFOID:0000000009757775

REMOVAL

1. Remove the CVT shift selector finisher (CVT: RE0F11A). Refer to TM-253, "Removal and Installation".
2. Remove the MT shift selector finisher (6MT: RS6F94R). Refer to TM-22, "Exploded View".
3. Remove the front air control screws.
4. Release the front air control metal clips using a suitable tool.
5. Disconnect the harness connectors from the A/C assembly switch and remove.

INSTALLATION

Installation is in the reverse order of removal.



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INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. Cluster lid A and the instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar finisher
4. Instrument panel to windshield
5. Instrument panel pins
6. Wiring harnesses behind the combination meter
7. A/C defroster duct and duct joint

These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicone spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

CAUTION:

Do not use silicone spray to isolate a squeak or rattle. If you saturate the area with silicone, you will not be able to recheck the repair.

CENTER CONSOLE

Components to pay attention to include:

1. Shift selector assembly cover to finisher
2. A/C control unit and cluster lid C
3. Wiring harnesses behind audio and A/C control unit

The instrument panel repair and isolation procedures also apply to the center console.

DOORS

Pay attention to the:

1. Finisher and inner panel making a slapping noise
2. Inside handle escutcheon to door finisher
3. Wiring harnesses tapping
4. Door striker out of alignment causing a popping noise on starts and stops

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. You can usually insulate the areas with felt cloth tape or insulator foam blocks from the NISSAN Squeak and Rattle Kit (J-50397) to repair the noise.

TRUNK

Trunk noises are often caused by a loose jack or loose items put into the trunk by the owner.
In addition look for:

1. Trunk lid bumpers out of adjustment
2. Trunk lid striker out of adjustment
3. The trunk lid torsion bars knocking together
4. A loose license plate or bracket

Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.

SUNROOF/HEADLINING

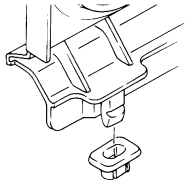
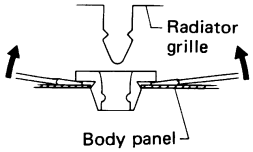
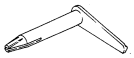
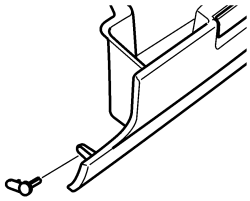
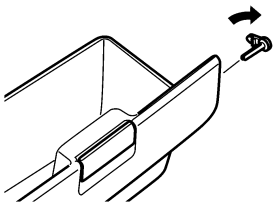
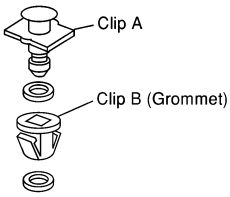
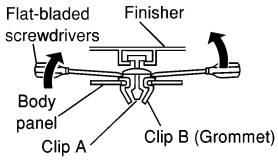
Noises in the sunroof/headlining area can often be traced to one of the following:

1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
2. Sun visor shaft shaking in the holder
3. Front or rear windshield touching headlining and squeaking

Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

OVERHEAD CONSOLE (FRONT AND REAR)

Overhead console noises are often caused by the console panel clips not being engaged correctly. Most of these incidents are repaired by pushing up on the console at the clip locations until the clips engage.
In addition look for:

Symbol No.	Shapes	Removal & Installation
CG104 		**Removal:** **Remove by bending up with flat-bladed screwdrivers.** 
CE114 		
CF118 		**Removal:** 

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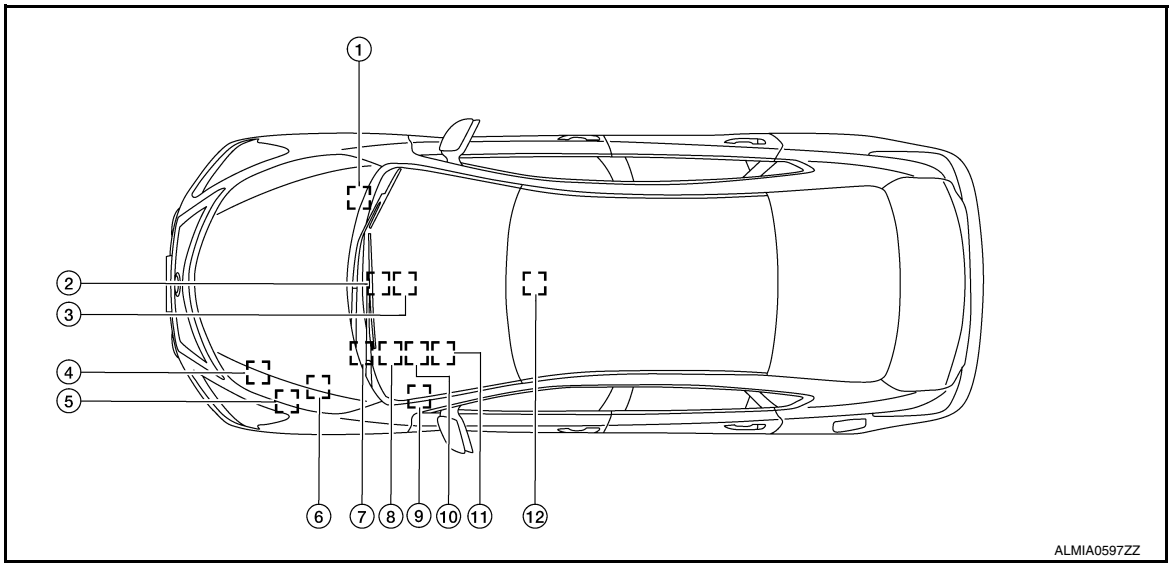
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009757064



1.	ABS actuator and electric unit (control unit)	2.	AV control unit	3.	A/C auto amp.
4.	ECM	5.	IPDM E/R	6.	TCM
7.	Data link connector	8.	EPS control unit	9.	BCM
10.	Combination meter	11.	Steering angle sensor	12.	Air bag diagnosis sensor unit

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000009757097

1.CHECK CONNECTOR

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

Is the inspection result normal?

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

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to MWI-52, "COMBINATION METER : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-77, "Removal and Installation".
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000009757135

1.CHECK CONNECTOR

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

Is the inspection result normal?

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

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EPS control unit.
2. Check the resistance between the EPS control unit harness connector terminals.

EPS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M87	2	1	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.
NO >> Repair the EPS control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EPS control unit. Refer to STC-22, "Diagnosis Procedure".

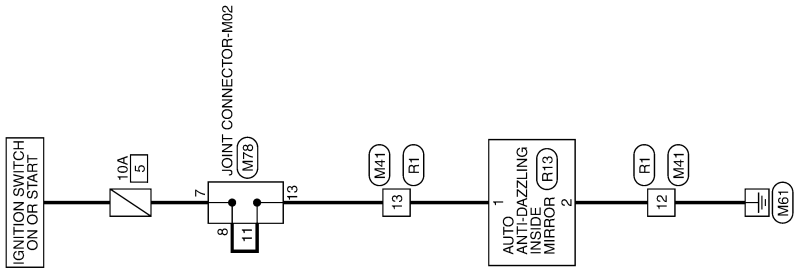
Is the inspection result normal?

YES (Present error)>>Replace the EPS control unit. Refer to STC-39, "Removal and Installation".
YES (Past error)>>Error was detected in the EPS control unit branch line.
NO >> Repair the power supply and the ground circuit.

INSIDE MIRROR

Wiring Diagram

INFOID:0000000009757789



INSIDE MIRROR

AALWA0510GB

BCM (BODY CONTROL MODULE)

List of ECU Reference

INFOID:0000000009758257

ECU	Reference
BCM (with Intelligent Key)	BCS-29, "Reference Value"
	BCS-46, "Fail-safe"
	BCS-48, "DTC Inspection Priority Chart"
	BCS-49, "DTC Index"
BCM (without Intelligent Key)	BCS-97, "Reference Value"
	BCS-108, "Fail-safe"
	BCS-108, "DTC Inspection Priority Chart"
	BCS-109, "DTC Index"

THE STEERING SWITCH (METER CONTROL SWITCH) IS INOPERATIVE

Description

INFOID:0000000009758299

If any of the following malfunctions is found for the steering switch (meter control switch) operation.
- All switches are inoperative
- The specified switch cannot be operated

Diagnosis Procedure

INFOID:0000000009758300

1.CHECK STEERING SWITCH SIGNAL CIRCUIT

Check the steering switch signal circuit. Refer to MWI-55, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK STEERING SWITCH (METER CONTROL SWITCH)

Check the steering switch. Refer to MWI-55, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-77, "Removal and Installation".
NG >> Replace steering switch. Refer to MWI-79, "Removal and Installation".

Terminal NO. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
7 (L)	Ground	Headlamp LO (LH)	Output	Lighting switch OFF		0 – 1 V
				Lighting switch 2ND		9 – 16 V
8 (P)	Ground	Headlamp LO (RH)	Output	Lighting switch OFF		0 – 1 V
				Lighting switch 2ND		9 – 16 V
10 (P)	Ground	Fuel pump relay power supply	Output	Approximately 1 second or more than after turning the ignition switch ON		0 – 1 V
				• Approximately 1 second after turning the ignition switch ON • Engine running		6 – 16 V
11 (GR)	Ground	Throttle control motor relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 – 1 V
				• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)		6 – 16 V
12 (SB)	Ground	A/C relay power supply	Output	Engine running	A/C switch OFF	0 – 1 V
					A/C switch ON (A/C compressor is operating)	9 – 16 V
13 (O)	Ground	Ignition relay power supply	Output	Ignition switch OFF or ACC		0 – 1 V
				Ignition switch ON		6 – 16 V
14 (LG)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 – 1 V
				Ignition switch ON		6 – 16 V
15 (V)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 – 1 V
				Ignition switch ON		6 – 16 V
16 (SB)	Ground	Throttle control motor relay control	Output	Ignition switch OFF or ACC		6 – 16 V
				Ignition switch ON		0 – 1 V
17 (LG)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 – 1 V
				Ignition switch ON		6 – 16 V
18 (O)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 – 1 V
				Ignition switch ON		6 – 16 V
19 (R)	Ground	Starter motor	Output	Other than engine cranking		0 – 1 V
				At engine cranking		6 – 16 V
20 (P)	Ground	Battery power supply	Input	Ignition switch OFF		9 – 16 V
21 (LG)	Ground	Cooling fan relay-1 power supply	Output	Cooling fan OFF		0 – 1 V
				Cooling fan operated		9 – 16 V
23 (Y)	Ground	Cooling fan relay-2 power supply	Output	Cooling fan OFF		0 – 1 V
				Cooling fan LO operated		4 – 8 V
				Cooling fan HI operated		9 – 16 V
24 (V)	Ground	Battery power supply	Input	Ignition switch OFF		6 – 16 V

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000009755850

Regarding Wiring Diagram information, refer to PCS-49, "Wiring Diagram".

1. CHECK FUSE AND FUSIBLE LINKS

Check that the following IPDM E/R fusible links are not blown.

Terminal No.	Signal name	Fusible link Nos.
1	Battery	E (80A)
2		B (60A)
24		J (40A/50A)

Is the fusible link blown?

YES >> Replace the blown fusible link after repairing the affected circuit.
NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect IPDM E/R connector E42 and E44.
2. Check voltage between IPDM E/R connector E42 and E44 and ground.

IPDM E/R		Ground	Voltage
Connector	Terminal		
E42	1	—	Battery voltage
	2		
E44	24		

Is the inspection result normal?

YES >> GO TO 3
NO >> Repair harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector E47 and E48.
3. Check continuity between IPDM E/R connector E47 and E48 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E47	52	—	Yes
E48	57		

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair harness or connectors.

PUSH-BUTTON IGNITION SWITCH

Component Function Check

INFOID:0000000009755887

1.CHECK FUNCTION

1. Select “PUSH SW” in “Data Monitor” of BCM with CONSULT.
2. Check the push-button ignition switch signal under the following conditions.

Test item	Condition	Status
PUSH SW	Push-button ignition switch is pressed	On
	Push-button ignition switch is not pressed	Off

Is the indication normal?

YES >> Inspection End.
NO >> Go to PCS-98, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009755888

Regarding Wiring Diagram information, refer to PCS-70, "Wiring Diagram".

1. CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL (PUSH-BUTTON IGNITION SWITCH)

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector and IPDM E/R connector E39.
3. Check voltage between push-button ignition switch connector M25 and ground.

Push-button ignition switch		Ground	Voltage (Approx.)
Connector	Terminal		
M25	8	—	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (BCM)

1. Disconnect BCM connector M83.
2. Check continuity between BCM connector M83 and push-button ignition switch connector M25.

BCM		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
M83	55	M25	8	Yes

3. Check continuity between BCM connector M83 and ground.

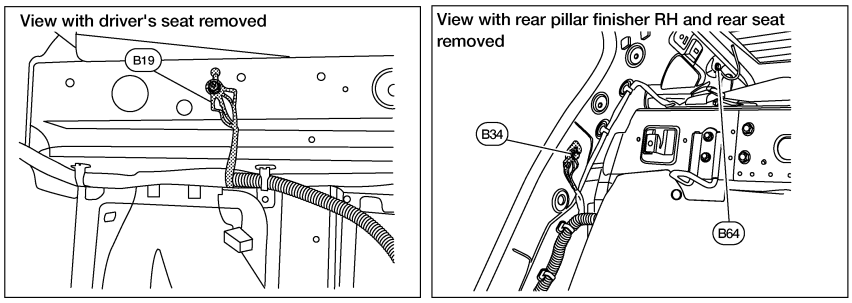
BCM		Ground	Continuity
Connector	Terminal		
M83	55	—	No

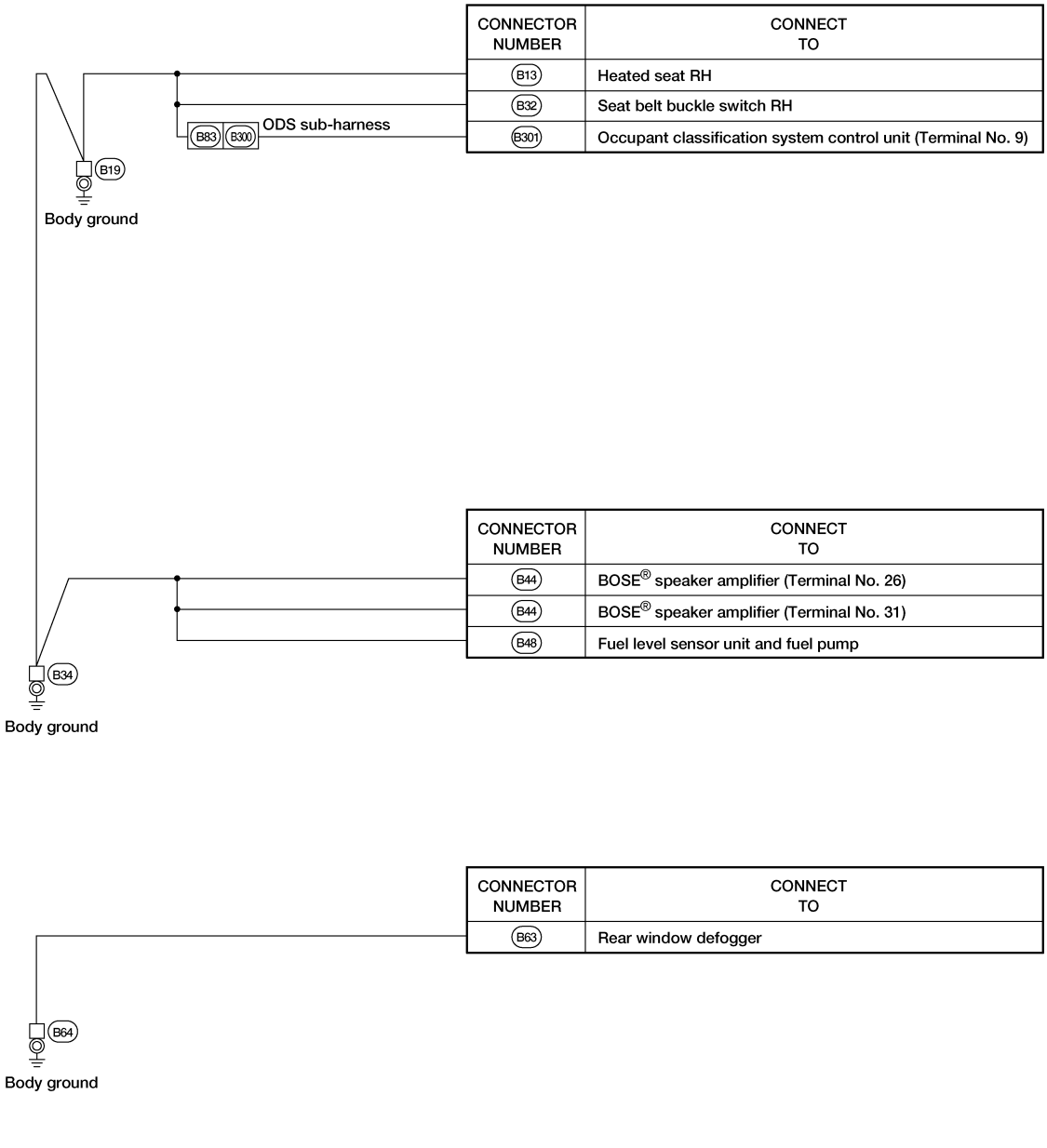
Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation".
NO >> Repair or replace harness or connectors.

3. CHECK IGNITION SWITCH OUTPUT SIGNAL (IPDM E/R)

Check voltage between IPDM E/R connector E39 and ground.





CONNECTOR NUMBER	CONNECT TO
B13	Heated seat RH
B32	Seat belt buckle switch RH
B301	Occupant classification system control unit (Terminal No. 9)

CONNECTOR NUMBER	CONNECT TO
B44	BOSE® speaker amplifier (Terminal No. 26)
B44	BOSE® speaker amplifier (Terminal No. 31)
B48	Fuel level sensor unit and fuel pump

CONNECTOR NUMBER	CONNECT TO
B63	Rear window defogger

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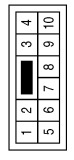
Connector No.	D201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

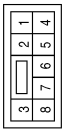
H.S.



Terminal No.	Color of Wire	Signal Name
4	L	–
9	BR	–
10	Y	–

Connector No.	D203
Connector Name	REAR POWER WINDOW SWITCH LH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
4	BR	–
5	R	–
6	L	–
7	Y	–
8	G	–

Connector No.	D204
Connector Name	REAR POWER WINDOW MOTOR LH
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
3	G	–

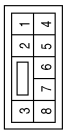
Connector No.	D301
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4	L	–
9	BR	–
10	Y	–

Connector No.	D303
Connector Name	REAR POWER WINDOW SWITCH RH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
4	BR	–
5	R	–
6	L	–
7	Y	–
8	G	–

Connector No.	D304
Connector Name	REAR POWER WINDOW MOTOR RH
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
3	G	–

ABKIA5406GB

REAR RH SIDE POWER WINDOW DOES NOT OPERATE WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED

WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED : Diagnosis Procedure

INFOID:0000000009757286

1.CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.
Refer to PWC-40, "REAR POWER WINDOW SWITCH : Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.
Refer to PWC-48, "REAR RH : Diagnosis Procedure".

Is the inspection result normal?

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

3.REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

Is the result normal?

YES >> INSPECTION END
NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

WHEN REAR POWER WINDOW SWITCH RH IS OPERATED

WHEN REAR POWER WINDOW SWITCH RH IS OPERATED : Diagnosis Procedure

INFOID:0000000009757287

1.CHECK REAR POWER WINDOW SWITCH RH POWER SUPPLY AND GROUND CIRCUIT

Check rear power window switch RH power supply and ground circuit.
Refer to PWC-40, "REAR POWER WINDOW SWITCH : Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.
Refer to PWC-40, "REAR POWER WINDOW SWITCH : Diagnosis Procedure".

Is the inspection result normal?

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

3.REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

Is the result normal?

YES >> INSPECTION END
NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

WHEN POWER WINDOW MAIN SWITCH IS OPERATED

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT
BODY CONTROL SYSTEM

BODY CONTROL SYSTEM : Diagnosis Procedure

INFOID:0000000010287612

Regarding Wiring Diagram information, refer to BCS-51, "Wiring Diagram".

1.CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not blown.

Terminal No.	Signal name	Fuses and fusible link No.
88	Battery power supply	12 (10A)
90		G (40A)

Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M85.
2. Check voltage between BCM connector M85 and ground.

BCM		Ground	Voltage
Connector	Terminal		
M85	88	—	Battery voltage
	90		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector M85 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M85	93	—	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair harness or connector.

MOONROOF MOTOR ASSEMBLY

MOONROOF MOTOR ASSEMBLY : Description

INFOID:0000000009756134

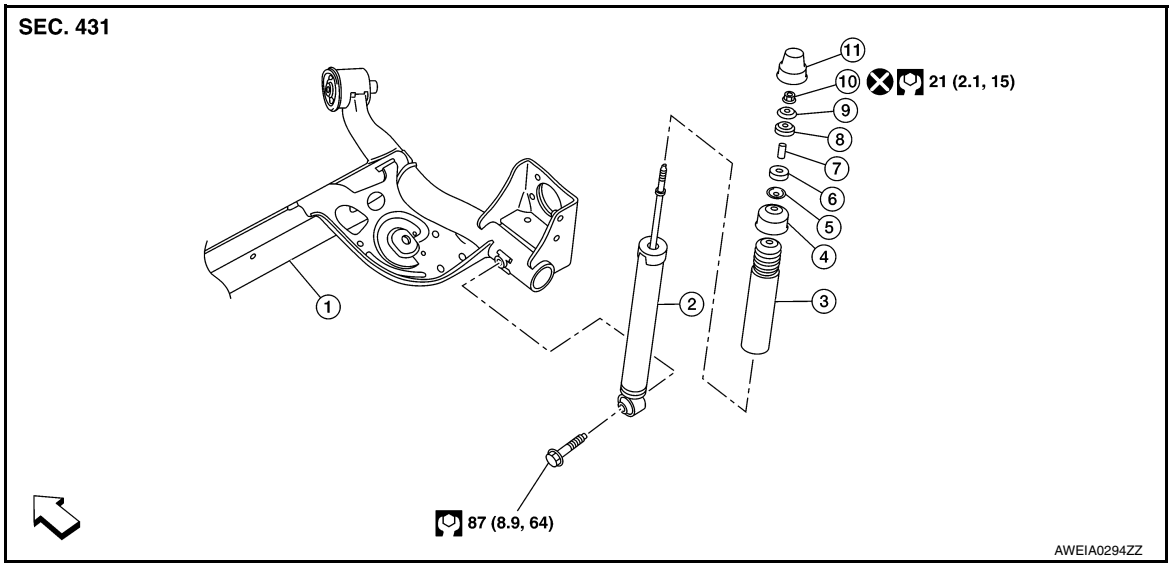
- BCM supplies power.
- CPU is integrated in moonroof motor assembly.
- Tilts up/down & slides open/close by moonroof switch operation.
- In order to close moonroof lid certainly with the signal from combination meter at the time of high speed run, the moonroof motor torque at the time of tilt-down operation is controlled.

REMOVAL AND INSTALLATION

REAR SHOCK ABSORBER

Exploded View

INFOID:0000000009758780



1. Rear suspension beam
2. Shock absorber
3. Bound bumper
4. Bound bumper cover
5. Washer
6. Bushing
7. Distance tube
8. Bushing
9. Washer
10. Piston rod lock nut
11. Cap

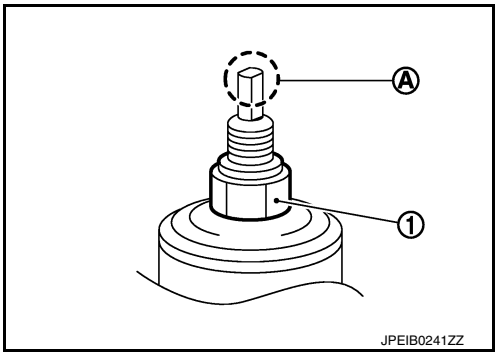
⇦ Front

Removal and Installation

INFOID:0000000009758781

REMOVAL

1. Remove the rear shock tower access flap.
2. Remove the cap from the rear shock absorber.
3. Remove the piston rod lock nut (1).
   NOTE:
   To loosen the piston rod lock nut, hold the tip (A) of the piston rod.
4. Remove the washer and the bushing.

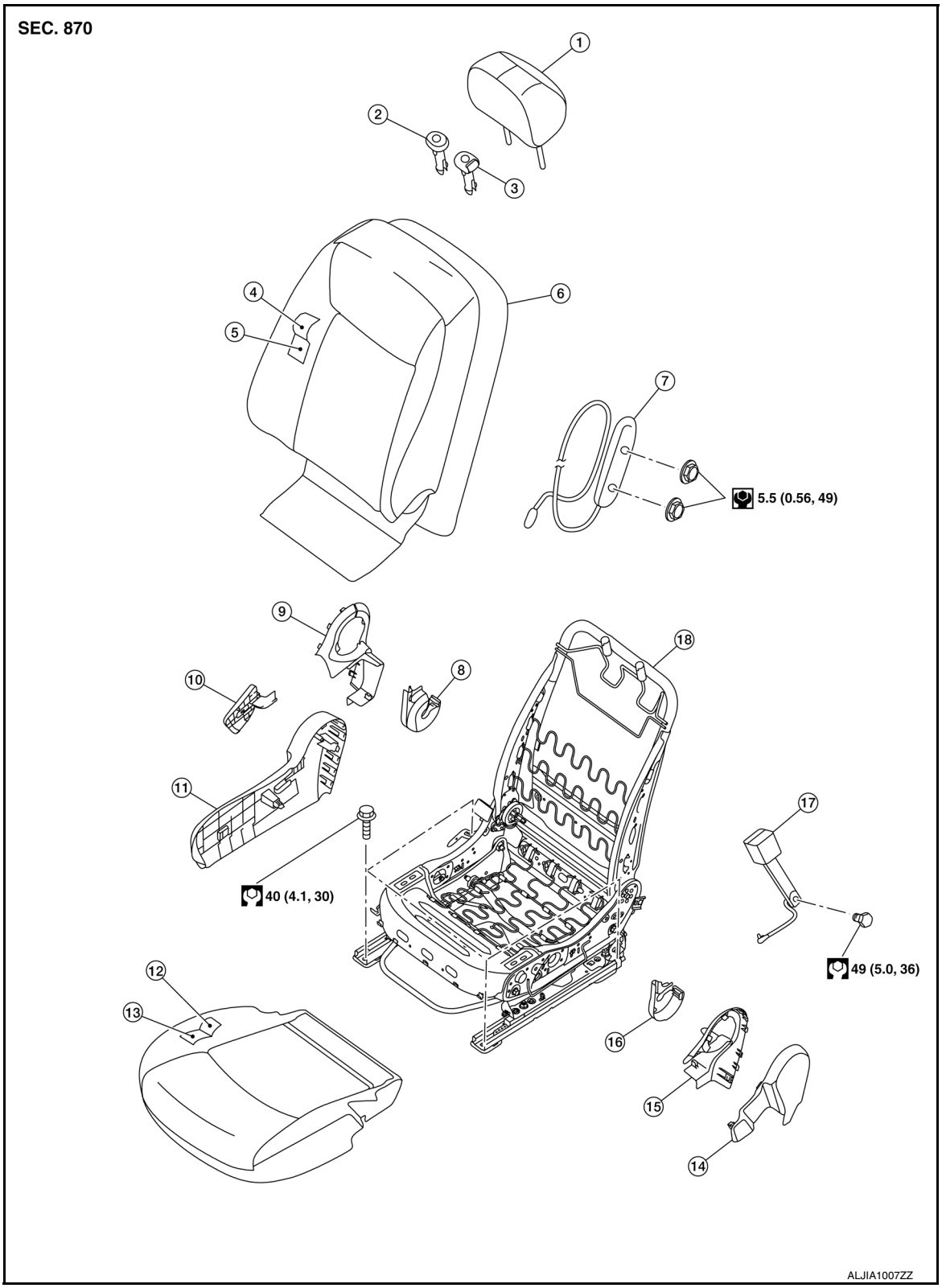


5. Set a suitable jack under the rear suspension beam.
   CAUTION:
   - **At this step, the jack must be set only for supporting the removal procedure. For details on jacking up the vehicle, refer to GI-31, "Garage Jack and Safety Stand and 2-Pole Lift".**
   - **Do not damage the rear suspension beam with the jack.**
   - **Make sure the rear suspension beam is stable when using the jack.**
6. Remove the lower shock absorber bolt.
7. Remove the rear shock absorber.
8. Remove the bushing, the distance tube, the washer, the bound bumper cover, and the bound bumper from the shock absorber.

PASSENGER SIDE : Exploded View

INFOID:0000000009756876

PASSENGER SEAT



1. Headrest
2. Headrest holder (free)
3. Headrest holder (locked)
4. Seatback trim
5. Seatback pad
6. Seatback silencer
7. Side air bag module
8. Recline mechanism cover (RH)
9. Seat cushion inner finisher (RH)
10. Recline lever
11. Seat cushion outer finisher (RH)
12. Seat cushion trim

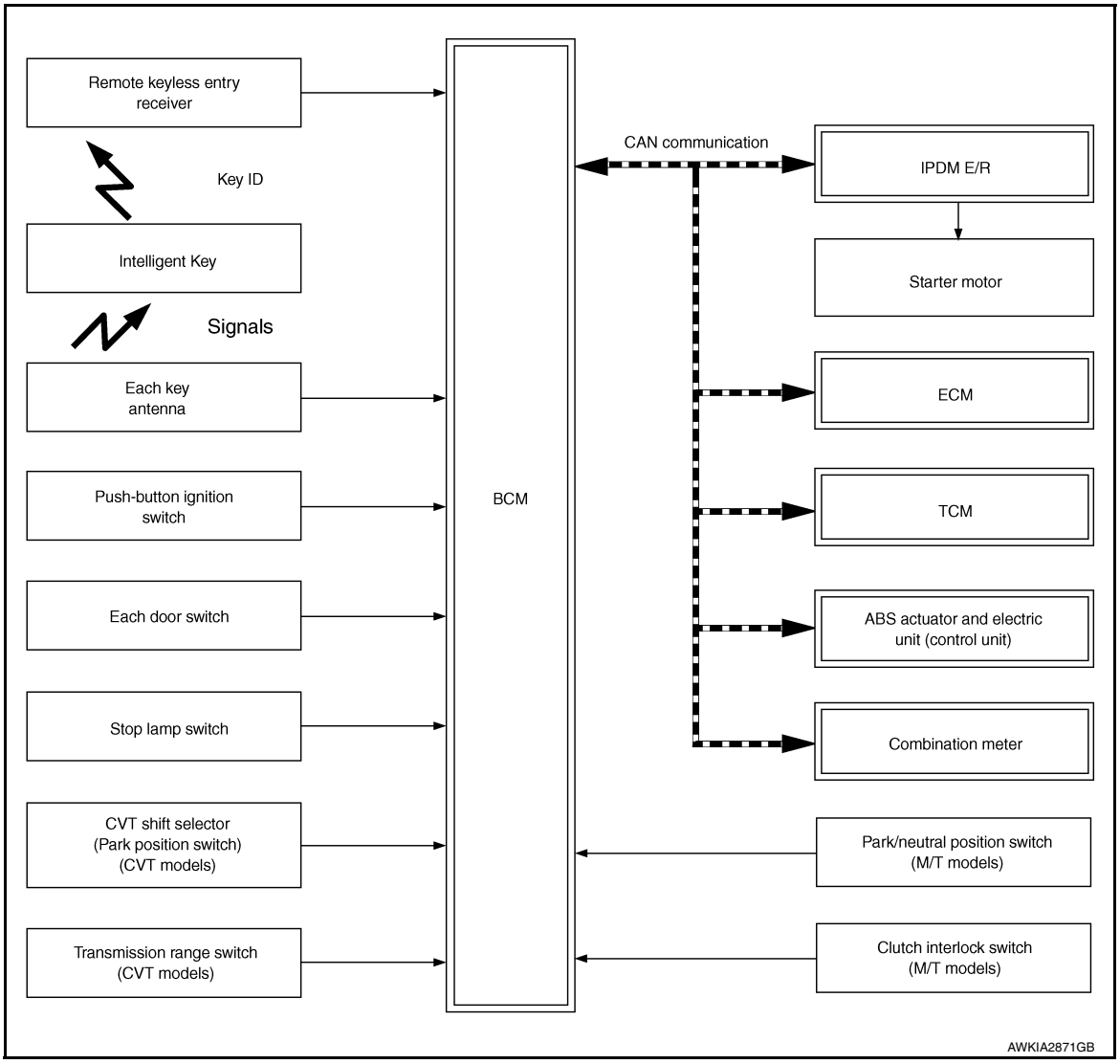
SYSTEM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:0000000009756683

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

- The engine start function of Intelligent Key system makes it possible to start and stop the engine without using the key, based on the electronic ID verification. The electronic ID verification is performed between BCM and Intelligent Key when the push-button ignition switch is pressed while the Intelligent Key is within the detection area of inside key antenna.
  NOTE:
  The driver should carry the Intelligent Key at all times.
- Intelligent Key has 2 IDs (Intelligent Key ID and NATS ID). It can perform the door lock/unlock operation and the push-button ignition switch operation when the registered Intelligent Key is carried.
- If the ID is successfully verified, when push-button ignition switch is pressed the engine can be started.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) upon request from the customer.
  NOTE:
  Refer to SEC-14, "NISSAN ANTI-THEFT SYSTEM : System Description" for any functions other than engine start function of Intelligent Key system.

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE

H.S.

10	9	8	7	6	5	4	3	2	1
20	19	18	17	16	15	14	13	12	11

Terminal No.	Color of Wire	Signal Name
5	LG	–
9	W	–

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A
16A	17A	18A	19A	20A	21A	22A	23A	24A	25A	26A	36A	37A	38A	39A
27A	28A	29A	30A	31A	32A	33A	34A	35A			47A	48A	49A	50A

40A 41A 42A 43A 44A 45A 46A
51A 52A 53A 54A 55A

Terminal No.	Color of Wire	Signal Name
12A	B	–
42A	GR	–
52A	BR	–

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
7	L	KEY CYLINDER UNLOCK SW
8	V	KEY CYLINDER LOCK SW
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW

Terminal No.	Color of Wire	Signal Name
23	Y	SECURITY INDICATOR OUTPUT
39	L	CAN-H
40	P	CAN-L

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
88	O	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND (POWER)

ABKIA5431GB

B2605 SHIFT POSITION

DTC Logic

INFOID:0000000009756737

DTC DETECTION LOGIC

NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-63, "DTC Logic".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-64, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2605	SHIFT PN DIAG IPDM	When ignition switch is ON, P/N position signal input from transmission range switch and P/N position signal (CAN) input from IPDM E/R do not match.	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connectors (Transmission range switch circuit is open or shorted.) • Transmission range switch • IPDM E/R • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Shift the selector lever to the Park (P) position.
2. Turn ignition switch ON and wait 1 second or more.
3. Shift the selector lever to the Neutral (N) position and wait 1 second or more.
4. Shift the selector lever to any position other than Park (P) and Neutral (N), and wait 1 second or more.
5. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-93, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009756738

Regarding Wiring Diagram information, refer to SEC-39, "Wiring Diagram".

1.CHECK IPDM E/R INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between IPDM E/R harness connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
IPDM E/R					
Connector	Terminal				
E43	4	Ground	Selector lever	P or N position	Battery voltage
				Other than above	0

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Disconnect transmission range switch connector.

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description

INFOID:0000000009756788

Security indicator lamp does not blink when power supply position is other than the ON position.

NOTE:

- Before performing the diagnosis, perform “Work Flow”. Refer to SEC-58, "Work Flow".
- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

Conditions of Vehicle (Operating Conditions)

Power supply position is other than the ON position.

Diagnosis Procedure

INFOID:0000000009756789

1.CHECK SECURITY INDICATOR LAMP

Check security indicator lamp.
Refer to SEC-9, "Security Indicator Lamp".

Is the inspection result normal?

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

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
NO >> GO TO 1.

>> GO TO 2.

2.REPLACE BCM

Replace BCM. Refer to BCS-126, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to BCS-116, "CONFIGURATION (BCM) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to BCS-116, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 4.

4.INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

DTC	CONSULT name	DTC detecting condition	Repair order
B1433	FRONT PRE-TEN2 RH CIRCUIT [OPEN]	RH seat belt pre-tensioner circuit is open. (lap belt)	Refer to SRC-94, "Diagnosis Procedure".
	FRONT PRE-TEN2 RH CIRCUIT [VB-SHORT]	RH seat belt pre-tensioner circuit is shorted to a power supply circuit. (lap belt)	
	FRONT PRE-TEN2 RH CIRCUIT [GND-SHORT]	RH seat belt pre-tensioner circuit is shorted to ground. (lap belt)	
	FRONT PRE-TEN2 RH CIRCUIT [SHORT]	RH seat belt pre-tensioner circuits are shorted to each other. (lap belt)	
B142A	IGN VOLTAGE [LOW]	Ignition voltage to the air bag diagnosis sensor unit is low.	Refer to SRC-96, "Diagnosis Procedure".
	IGN VOLTAGE [HIGH]	Ignition voltage to the air bag diagnosis sensor unit is high.	
B14XX	CONTROL UNIT [UNIT FAIL]	Air bag diagnosis sensor unit is malfunctioning.	Refer to SRC-99, "Diagnosis Procedure".
B00A0	OCCUPANT DETECTION SENSOR UNIT [UNIT FAIL]	The OCS control unit is malfunctioning.	Refer to SRC-102, "Diagnosis Procedure".
	OCCUPANT DETECTION SENSOR UNIT [NO DATA]		
	OCCUPANT DETECTION SENSOR UNIT [UNDEFINED]		
	OCCUPANT DETECTION SENSOR UNIT [RESET FAIL]		
	OCCUPANT DETECTION SENSOR UNIT [COMM FAIL]	Communication between the OCS control unit and the air bag diagnosis sensor unit is interrupted.	
	OCCUPANT DETECTION SENSOR [UNIT FAIL]	The OCS sensor is malfunctioning.	
	OCCUPANT DETECTION SENSOR [POWER FAIL]	The OCS sensor circuit is malfunctioning.	
B00D5	PASSENGER AIRBAG INDICATOR CIRCUIT [FAIL]	Front passenger air bag OFF indicator is malfunctioning.	Refer to SRC-105, "Diagnosis Procedure".
	PASSENGER AIRBAG INDICATOR CIRCUIT [OPEN]	Front passenger air bag OFF indicator circuit is open.	
	PASSENGER AIRBAG INDICATOR CIRCUIT [VB-SHORT]	Front passenger air bag OFF indicator is shorted to a power supply circuit.	
	PASSENGER AIRBAG INDICATOR CIRCUIT [GND-SHORT]	Front passenger air bag OFF indicator is shorted to ground.	

Flash Code Index

INFOID:0000000009757940

WARNING LAMP FLASH CODE CHART

How to read flash codes

1. Put the vehicle in Diagnosis Mode. Refer to SRC-17, "Trouble Diagnosis without CONSULT".
2. All codes are proceded by a seven second ”holding” flash.
3. Identify how many primary flashes are displayed as well as the length of each primary flash.
4. Refer to the tables and examples below to determine which SRS subsystem the code belongs to.
5. Count the short secondary flashes that follow the primary flashes.
6. Match the correct flashing pattern to the malfunctioning component and perform the Diagnosis Procedure.

Refer to the illustrations below for an example of each flashing pattern.

Diagnosis Procedure

INFOID:0000000009757975

1.HARNESS CONNECTOR

Visually inspect all applicable harness connectors for the following:
- Visible damage to connector or terminal
- Loose terminal
- Poor connection

NOTE:
All harness connectors should be inspected from the air bag diagnosis sensor unit to the end component (including any in-line connectors).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Perform one of the following repairs:
- Visible damage: Replace the harness.
- Loose terminal: Secure the terminal.
- Poor connection: Secure the connection.

2.CONFIRM DTC

1. Reconnect all harness connectors.
2. Turn ignition switch ON.
3. Check for DTC using CONSULT.

Is DTC still current?

YES >> GO TO 3.
NO >> Refer to GI-39, "Intermittent Incident".

3.WIRING HARNESS

Check the wiring harness for visible damage.

NOTE:
The entire wiring harness should be inspected from the air bag diagnosis sensor unit to the end component (including any in-line connectors).

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace the harness.

4.CONFIRM DTC

1. Reconnect all harness connectors.
2. Turn ignition switch ON.
3. Check for DTC using CONSULT.

Is DTC still current?

YES >> GO TO 5.
NO >> Refer to GI-39, "Intermittent Incident".

5.FRONT SIDE AIR BAG SATELLITE SENSOR LH

1. Replace the front side air bag satellite sensor LH. Refer to SR-26, "Removal and Installation".
2. Turn ignition switch ON.
3. Check for DTC using CONSULT.

Is DTC still current?

YES >> GO TO 6.
NO >> Clear DTC. Inspection End.

6.AIR BAG DIAGNOSIS SENSOR UNIT

1. Replace the air bag diagnosis sensor unit. Refer to SR-28, "Removal and Installation".
2. Turn ignition switch ON.
3. Check for DTC using CONSULT.

Is DTC still current?

YES >> GO TO 7.
NO >> Clear DTC. Inspection End.

Diagnosis Procedure

INFOID:0000000009758020

1.HARNESS CONNECTOR

Visually inspect all applicable harness connectors for the following:
- Visible damage to connector or terminal
- Loose terminal
- Poor connection

NOTE:
All harness connectors should be inspected from the air bag diagnosis sensor unit to the end component (including any in-line connectors).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Perform one of the following repairs:
- Visible damage: Replace the harness.
- Loose terminal: Secure the terminal.
- Poor connection: Secure the connection.

2.CONFIRM DTC

1. Reconnect all harness connectors.
2. Turn ignition switch ON.
3. Check for DTC using CONSULT.

Is DTC still current?

YES >> GO TO 3.
NO >> Refer to GI-39, "Intermittent Incident".

3.WIRING HARNESS

Check the wiring harness for visible damage.

NOTE:
The entire wiring harness should be inspected from the air bag diagnosis sensor unit to the end component (including any in-line connectors).

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace the harness.

4.CONFIRM DTC

1. Reconnect all harness connectors.
2. Turn ignition switch ON.
3. Check for DTC using CONSULT.

Is DTC still current?

YES >> GO TO 5.
NO >> Refer to GI-39, "Intermittent Incident".

5.PASSENGER AIR BAG OFF INDICATOR

1. Replace the passenger air bag off indicator. Refer to SR-33, "Removal and Installation".
2. Turn ignition switch ON.
3. Check for DTC using CONSULT.

Is DTC still current?

YES >> GO TO 6.
NO >> Clear DTC. Inspection End.

6.AIR BAG DIAGNOSIS SENSOR UNIT

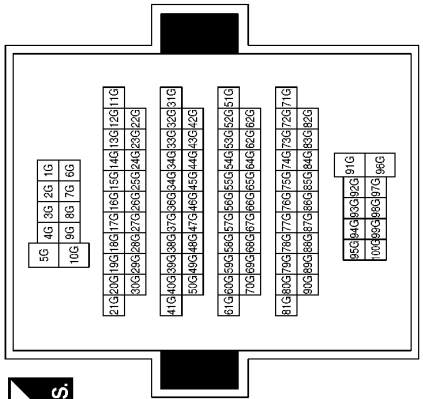
1. Replace the air bag diagnosis sensor unit. Refer to SR-28, "Removal and Installation".
2. Turn ignition switch ON.
3. Check for DTC using CONSULT.

Is DTC still current?

YES >> GO TO 7.
NO >> Clear DTC. Inspection End.

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

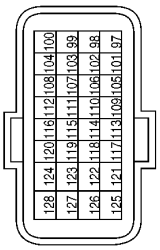
H.S.



Terminal No.	Color of Wire	Signal Name
95G	P	–
100G	L	–

Connector No.	E16
Connector Name	ECM
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H

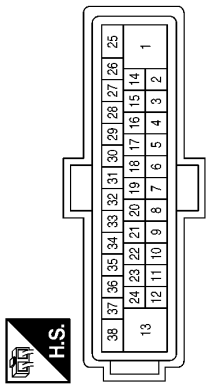
Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–

Connector No.	E33
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
14	P	CAN-L
26	L	CAN-H

ABGIA0114GB

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow (With GR8-1200 NI)

INFOID:0000000009759161

STARTING SYSTEM DIAGNOSIS WITH GR8-1200 NI

To test the starting system, use the following special service tool:

- GR8-1200 NI Multitasking battery and electrical diagnostic station

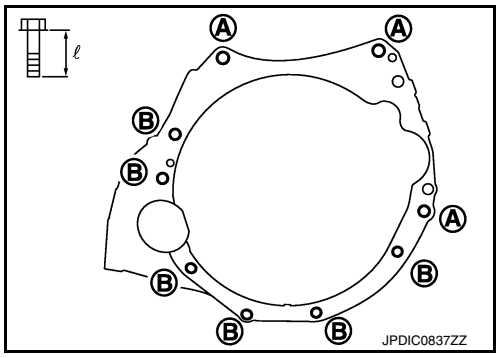
NOTE:

Refer to the diagnostic station Instruction Manual for proper starting system diagnosis procedures.

- **Improper alignment caused by missing dowels may cause vibration, oil leaks or breakage of drive train components.**
- **When installing transaxle assembly, do not bring input shaft into contact with clutch cover.**
- **Tapping work for tapping bolts is not applied to new transaxle case. Do not perform tapping by other than screwing tapping bolts because tapping is formed by screwing tapping bolts into transaxle case.**

Tighten transaxle assembly mounting bolts to the specified torque. As shown viewing from the engine.

Bolt symbol	(A)	(B)
Insertion direction	Transaxle to engine	Engine to transaxle
Quantity	3	6
Bolt length " ℓ " mm (in)	60 (2.36)	50 (1.97)
Tightening torque N·m (kg-m, ft-lb)	62.0 (6.3, 46)	



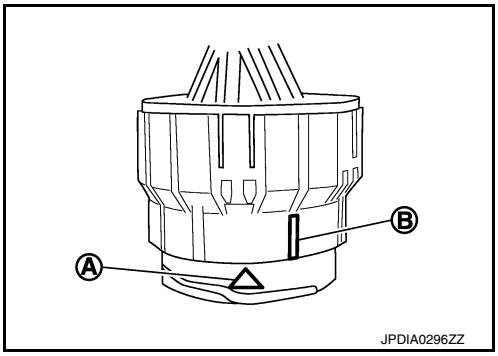
Inspection

INFOID:0000000009759286

INSPECTION AFTER INSTALLATION

- Check the operation of the control linkage. Refer to TM-26, "Inspection".
- Check the oil level and for oil leaks. Refer to TM-19, "Inspection".

- **Securely align marking (A) on CVT unit harness connector terminal body with bayonet ring slit (B). Then, be careful not to make a half fit condition as shown in the figure.**
- **Never mistake the slit of bayonet ring for other dent portion.**



General Precautions

INFOID:0000000010346196

- Always use the specified brand of CVT fluid.
- Use lint-free paper not cloth rags during work.
- Dispose of the waste oil using the methods prescribed by law, ordinance, etc. after replacing the CVT fluid.

Monitored item	(Unit)	Monitor item selection		Remarks
		MAIN SIGNALS	ECU INPUT SIGNALS	
TRGT PRI PRESSURE	(MPa)	▼	▼	Displays the target oil pressure of the primary pressure solenoid valve calculated from oil pressure processing of gear shift control.
TRGT HC/RB PRESS	(MPa)	▼	▼	Displays the target oil pressure of the high clutch & reverse brake solenoid valve calculated from oil pressure processing of gear shift control.
TRGT LB PRESSURE	(MPa)	▼	▼	Displays the target oil pressure of the low brake solenoid valve calculated from oil pressure processing of gear shift control.
ISOLT1	(A)	×	▼	Displays the command current from TCM to the torque converter clutch solenoid valve.
ISOLT2	(A)	×	▼	Displays the command current from TCM to the line pressure solenoid valve.
PRI SOLENOID	(A)	×	▼	Displays the command current from TCM to the primary pressure solenoid valve.
HC/RB SOLENOID	(A)	×	▼	Displays the command current from TCM to the high clutch& reverse brake solenoid valve.
L/B SOLENOID	(A)	×	▼	Displays the command current from TCM to the low brake solenoid valve.
SOLMON1	(A)	×	×	Monitors the command current from TCM to the torque converter clutch solenoid valve and displays the monitored value.
SOLMON2	(A)	×	×	Monitors the command current from TCM to the line pressure solenoid valve and displays the monitored value.
PRI SOL MON	(A)	×	×	Monitors the command current from TCM to the primary pressure solenoid valve and displays the monitored value.
HC/RB SOL MON	(A)	×	×	Monitors the command current from TCM to the high clutch& reverse brake solenoid valve and displays the monitored value.
L/B SOL MON	(A)	×	×	Monitors the current command from TCM to the low brake solenoid valve and displays the monitored value.
D POSITION SW	(On/Off)	▼	×	Displays the operation status of the transmission range switch (D position).
N POSITION SW	(On/Off)	▼	×	Displays the operation status of the transmission range switch (N position).
R POSITION SW	(On/Off)	▼	×	Displays the operation status of the transmission range switch (R position).
P POSITION SW	(On/Off)	▼	×	Displays the operation status of the transmission range switch (P position).
BRAKESW	(On/Off)	×	×	Displays the reception status of the stop lamp switch signal received through CAN communication.
L POSITION SW	(On/Off)	▼	×	Displays the operation status of the transmission range switch (L position).
IDLE SW	(On/Off)	×	×	Displays the reception status of the closed throttle position signal received through CAN communication.
SPORT MODE SW	(On/Off)	×	×	Displays the reception status of the overdrive control switch signal received through CAN communication.
STRDWNSW	(On/Off)	▼	×	• Displays the operation status of the paddle shifter (down switch). • It is displayed although not equipped.

DTC/CIRCUIT DIAGNOSIS

U0073 COMMUNICATION BUS A OFF

DTC Logic

INFOID:0000000009759382

DTC DETECTION LOGIC

DTC	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	Possible causes
U0073	COMM BUS A OFF (Control Module Communication Bus A Off)	TCM communication blockage lasts for 2 seconds or more when turning ON the ignition switch. (Communication not established.)	Harness or connector (CAN communication line is error)

DTC CONFIRMATION PROCEDURE

1.PREPARATION BEFORE WORK

If another “DTC CONFIRMATION PROCEDURE” occurs just before, turn ignition switch OFF and wait for at least 10 seconds, then perform the next test.

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine and wait for at least 5 seconds.
2. Check the DTC.

Is “U0073” detected?

YES >> Go to TM-152, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009759383

For the diagnosis procedure, refer to LAN-16, "Trouble Diagnosis Flow Chart".

1. Start the engine.
2. Check voltage between TCM connector terminal and ground.

TCM		—	Condition	Voltage (Approx.)
Connector	Terminal			
F23	16	Ground	• Selector lever: “N” position • At idle	0.88 – 0.92 V

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
NO >> There is a malfunction of secondary pressure sensor value. Replace transaxle assembly. Refer to TM-283, "Removal and Installation".

MAIN POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000009759482

1.CHECK TCM POWER CIRCUIT (PART 1)

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

+		-	Voltage
TCM			
Connector	Terminal		
F23	45	Ground	10 – 16 V
	46		

Is the inspection result normal?

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

2.CHECK TCM POWER CIRCUIT (PART 2)

Check voltage between TCM harness connector terminals and ground.

+		-	Condition	Voltage
TCM				
Connector	Terminal			
F23	47	Ground	Ignition switch ON	10 – 16 V
			Ignition switch OFF	0 V
	48		Ignition switch ON	10 – 16 V
			Ignition switch OFF	0 V

Is the inspection result normal?

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

3.CHECK TCM GROUND CIRCUIT

Check continuity between TCM harness connector terminals and ground.

TCM		—	Continuity
Connector	Terminal		
F23	41	Ground	Existed
	42		

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
NO >> Repair or replace malfunctioning parts.

4.DETECT MALFUNCTION ITEMS (PART 1)

Check the following items:

- Open or short circuit of harness between battery positive terminal and TCM connector terminals 45 and 46. Refer to PG-8, "Wiring Diagram — Battery Power Supply —".
- 10A fuse (No.33, fuse and fusible link block). Refer to PG-48, "Terminal Arrangement".
- 10A fuse (No.36, fuse and fusible link block). Refer to PG-48, "Terminal Arrangement".

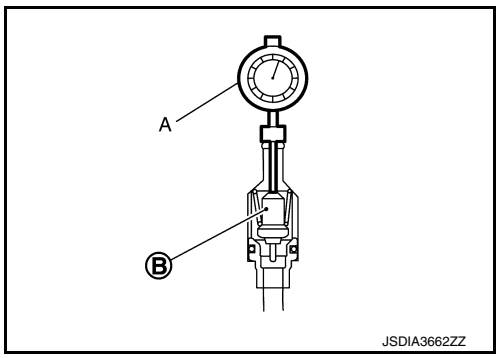
Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
NO >> Repair or replace malfunctioning parts.

- Place dial indicator (A) on the pellet Ⓑ and measure the elongation from the initial state.

Standard : Refer to TM-289, "Heater Thermostat".

4. If out of standard, replace heater thermostat.



INSPECTION AFTER INSTALLATION

Start the engine, and check the joints for coolant leakage.

WIRING DIAGRAM

WARNING CHIME SYSTEM

Wiring Diagram

INFOID:0000000009759239