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NISSAN SENTRA

MODEL B17 SERIES

QUICK REFERENCE INDEX

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000012782178

Regarding Wiring Diagram information, refer to AV-25, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio 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 FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M43 and suspect front door speaker connector.
2. Check continuity between audio unit connector M43 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M43	2	D10 (LH)	1	Yes
	3		2	
	11	D110 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M43 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M43	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit connector M43 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M43.

Audio unit connector M43		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

Connector No.	M97
Connector Name	AV CONTROL UNIT (WITH DISPLAY AUDIO SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
53	B	GND
54	–	–
55	G	D+
56	W	D-
57	R	V BUS
58	SHIELD	SHIELD

Connector No.	M99
Connector Name	AV CONTROL UNIT (WITH DISPLAY AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
59	SHIELD	AUX SHIELD
60	G	AUX AUDIO –
61	L	AUX AUDIO RH
62	Y	AUX AUDIO LH
63	–	–
64	–	–
65	–	–
66	–	–

Connector No.	M107
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	SHIELD	–

Connector No.	M112
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M122
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
21	V	GND (STRG SW GND)
22	G	STRG SW A
23	R	STRG SW B
38	Y	8P/R OUTPUT

Connector No.	M123
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
47	SB	M-CAN H
48	LG	M-CAN L

AANIA4457GB

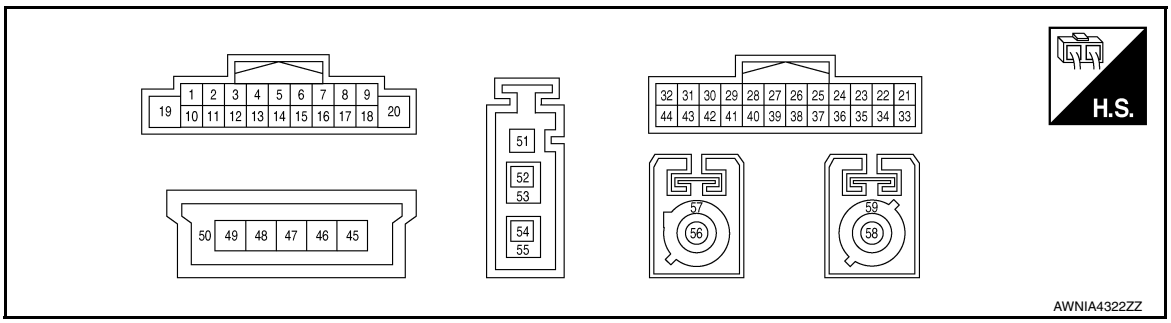
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

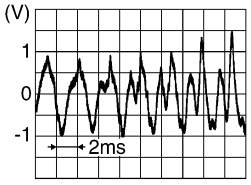
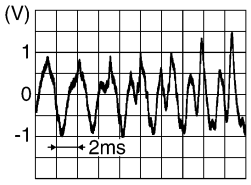
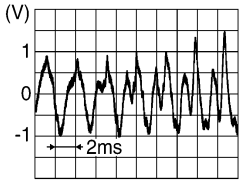
Reference Value

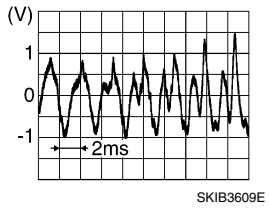
INFOID:0000000012782253

TERMINAL LAYOUT



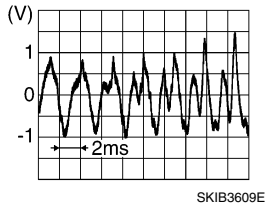
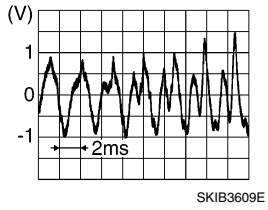
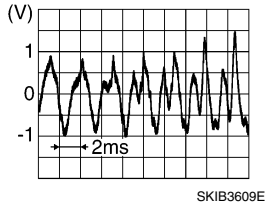
PHYSICAL VALUES

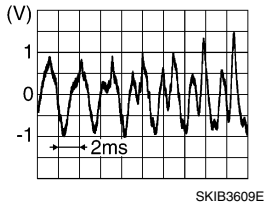
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
2 (L)	3 (P)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (LG)	5 (SB)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
7 (L)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (L)	—	CAN high	Input/ Output	—	—	—
9 (V)	44 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
11 (G)	12 (R)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E

AV control unit connector M104		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
43	41	Speak into microphone.	 SKIB3609E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-210, "Removal and Installation".
NO >> Replace microphone. Refer to AV-223, "Removal and Installation".

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
33 (R)	32 (W)	Rear speaker signal RH	Output	ON	Sound output	 SKIB3609E
34 (P)	35 (V)	Front speaker signal RH	Output	ON	Sound output	 SKIB3609E
37 (GR)	36 (SB)	Front speaker signal LH	Output	ON	Sound output	 SKIB3609E

B43	10	23	Audio signal output	
B44	24	29		

Is the inspection result normal?

YES >> Replace rear door speaker. Refer to AV-324, "Removal and Installation".
NO >> GO TO 4

4. CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B43 and AV control unit connector M100.
3. Check continuity between Bose speaker amp. connector B43 and AV control unit connector M100.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B43	14	M100	4	Yes
	15		5	
	12		13	
	13		14	

4. Check continuity between Bose speaker amp. connector B43 and ground.

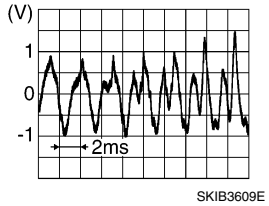
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B43	14	—	No
	15		
	12		
	13		

Is the inspection result normal?

YES >> GO TO 5
NO >> Repair or replace harness or connectors.

5. CHECK REAR DOOR SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B43 and AV control unit connector M100.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M100 and ground.

AV control unit connector M100		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
4	5	Audio signal output	
13	14		

Is the inspection result normal?

Transmit unit	Signal name
Air bag diagnosis sensor unit	Car crash information signal
BCM	Auto ACC signal
	Door lock status signal
	Sleep wake up signal

DESCRIPTION

- The Telematics system is a system for providing information and services supporting the safe and pleasant car life by connecting the vehicle and the user all the time via NISSANCONNECT^{SM} center.
- TCU (Telematics Communication Unit) equipped with a radio communication terminal communicates with the information center (NISSANCONNECT^{SM} center) via radio waves for receiving NISSANCONNECT^{SM} services.
- With the equipment of the radio communication terminal, TCU communicate with NISSANCONNECT^{SM} center by Packet communication^{*1} and SMS^{*2} via TEL antenna mounted on the Telematics antenna.

NOTE:

- *1: Packet communication means a communication method that data are broken down into smaller chunks for communication. The split data is called a packet and improves the efficiency of the communication circuit.
- *2: SMS stands for Short Message Service, also known as text messaging or short mail, and provides text-based message communication services.

- While communicating with the operator, data (e.g. transmission of own vehicle location) are transmitted to the NISSANCONNECT^{SM} Service Center by using DTMF tone signals and SMS via the radio communication module included in TCU.
- Audio signals transmitted and received while communicating with the operator are input by the microphone connected to TCU, and then these audio signals are output from TCU via the audio data circuit by using the audio signal circuit connected to the AV control unit.
- To use the Telematics System, TCU must be activated. Refer to the following requirements:

- Sign up for Telematics Service.
- Perform the activation procedure, refer to AV-361, "ADDITIONAL SERVICE WHEN USING TELEMATICS SYSTEM (WORK STEP VIEW) : Process Chart".

NISSANCONNECT^{SM} SERVICES

NISSANCONNECT^{SM} provides services as follows:

Service item
Information Service
Vehicle tracking
Tow notification, Vehicle abnormal status Notification, Burglar warning / Invasion notification
Operator service

Information Service

1. When the Information channel is operated, the AV control unit issues a request of data communications between the user and NISSANCONNECT^{SM} center to TCU via USB.
2. TCU starts up and starts data communications with NISSANCONNECT^{SM} center via TEL antenna.
3. TCU receives various information, such as Internet contents and traffic information, from NISSANCONNECT^{SM} center by packet communication.
4. TCU transmits received signals to the AV control unit via USB. The AV control unit converts the signals to start voice guidance and display information on the screen.

Vehicle Tracking

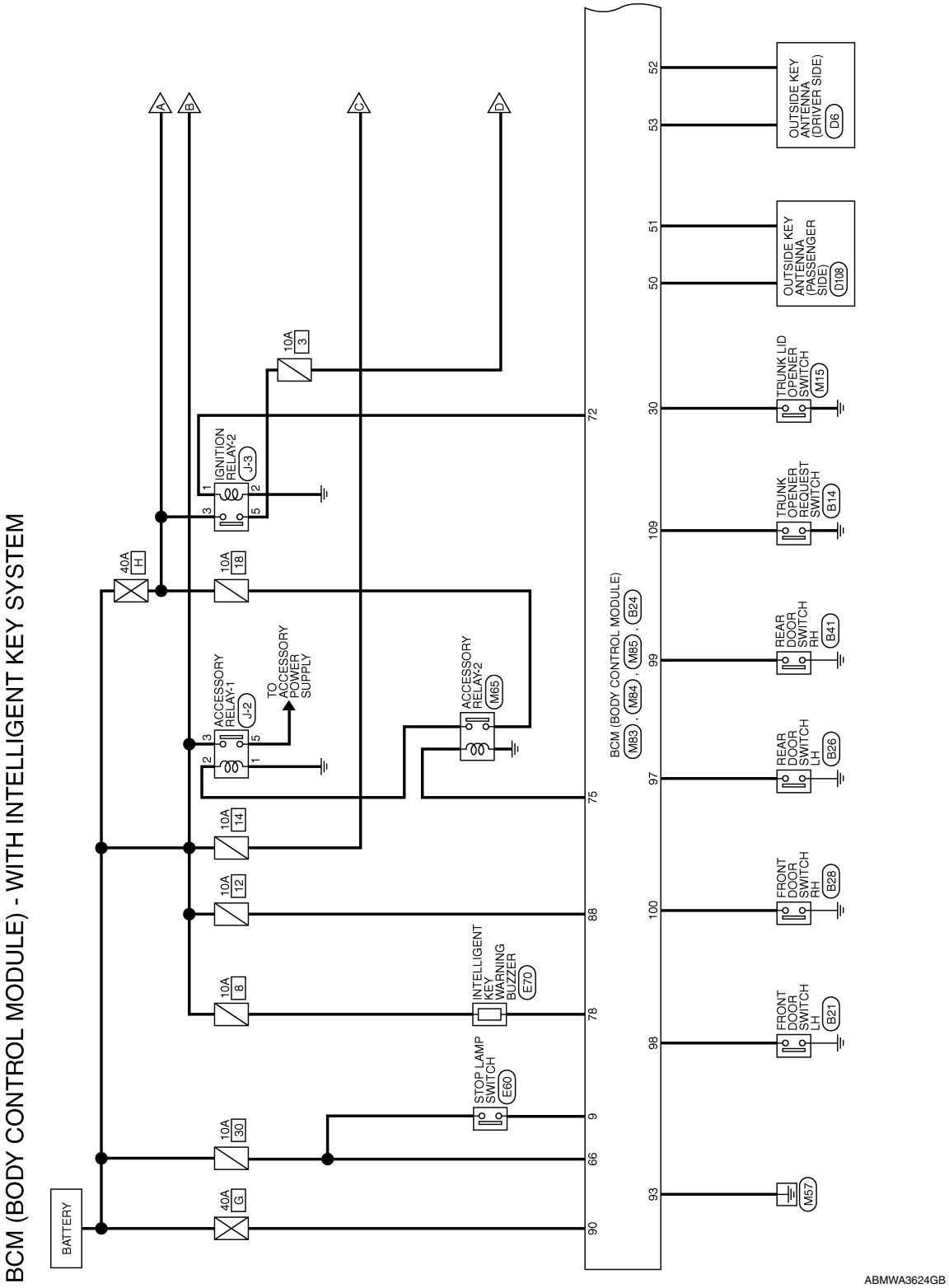
1. When performing an own vehicle location verification with cell phone or personal computer, the user can access to NISSANCONNECT^{SM} center.
2. Own vehicle location information is transmitted from the vehicle to NISSANCONNECT^{SM} center by SMS.
3. TCU starts up when SMS is received via TEL antenna.

WIRING DIAGRAM

BCM

Wiring Diagram

INFOID:0000000012782441



Monitor Item	Condition	Value/Status
FAN ON SIG	Blower fan OFF	Off
	Blower fan ON	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
HAZARD SW	Hazard switch OFF	Off
	Hazard switch ON	On
HEAD LAMP SW 1	Lighting switch OFF	Off
	Lighting switch 1ST	On
HEAD LAMP SW 2	Lighting switch OFF	Off
	Lighting switch 2ND	On
HI BEAM SW	Lighting switch OFF	Off
	Lighting switch HI	On
ID REGST FL1	ID registration of front left tire incomplete	Yet
	ID registration of front left tire complete	Done
ID REGST FR1	ID registration of front right tire incomplete	Yet
	ID registration of front right tire complete	Done
ID REGST RL1	ID registration of rear left tire incomplete	Yet
	ID registration of rear left tire complete	Done
ID REGST RR1	ID registration of rear right tire incomplete	Yet
	ID registration of rear right tire complete	Done
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
INT VOLUME	Intermittent wiper position	1 - 7
KEY CYL LK-SW	Key cylinder switch in N position	Off
	Key cylinder switch in LOCK position	On
KEY CYL UN-SW	Key cylinder switch in N position	Off
	Key cylinder switch in UNLOCK position	On
KEY ON SW	Key removed from ignition key cylinder	Off
	Key inserted into ignition key cylinder	On
KEYLESS LOCK	LOCK button of keyfob not pressed	Off
	LOCK button of keyfob pressed	On

FRONT DISC BRAKE

BRAKE PAD

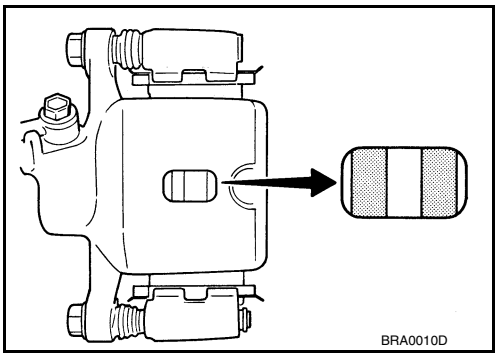
BRAKE PAD : Inspection and Adjustment

INFOID:0000000013462838

INSPECTION

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

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



ADJUSTMENT

CAUTION:

- **Burnish contact surfaces between brake pads and disc rotor according to the following procedure after refinishing the disc rotor, replacing brake pads or if a soft pedal occurs at very low mileage.**
- **Be careful of vehicle speed. Brakes do not operate firmly/securely until pads and disc rotor are securely seated.**
- **Only perform this procedure under safe road and traffic conditions. Use extreme caution.**

1. Drive the vehicle on straight, flat road.
2. Depress the brake pedal until the vehicle stops.
3. Release the brake pedal for a few minutes to allow the brake components to cool.
4. Repeat steps 1 to 3 until pad and disc rotor are securely seated.

DISC ROTOR

DISC ROTOR : Inspection and Adjustment

INFOID:0000000013462842

INSPECTION

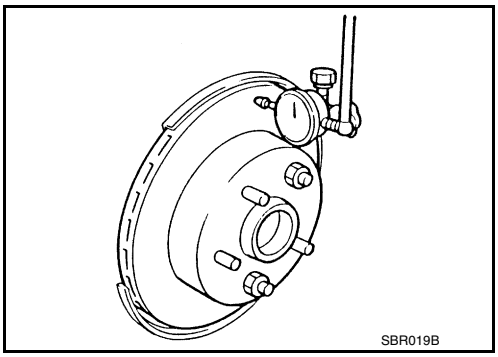
Appearance

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 (with it attached to the vehicle) : **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.

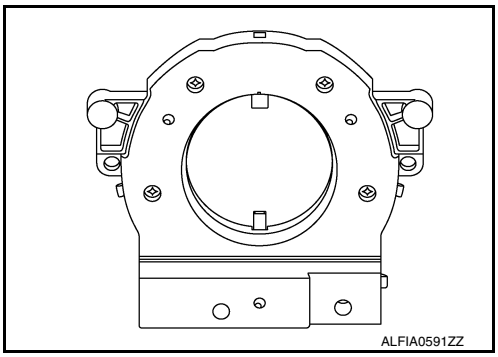
Tool number : **38-PFM92 (—)**

Steering Angle Sensor

INFOID:0000000013229787

Detects the following information and transmits steering angle signal to ABS actuator and electric unit (control unit) via CAN communication:

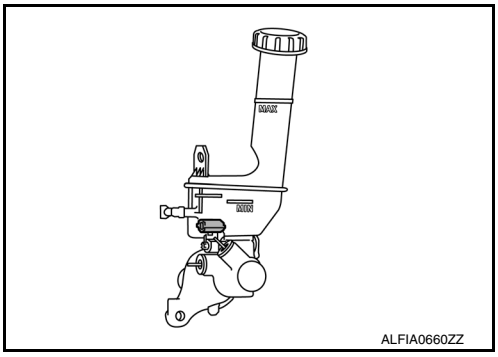
- Steering angle sensor malfunction signal
- Steering wheel rotation amount
- Steering wheel rotation angular velocity
- Steering wheel rotation direction



Brake Fluid Level Switch

INFOID:0000000013229788

Detects the brake fluid level in reservoir tank and transmits converted electric signal from combination meter to ABS actuator and electric unit (control unit) via CAN communication when brake fluid level is the specified level or less.



Parking Brake Switch

INFOID:0000000013229790

Detects the operation status of parking brake switch and transmits converted electric signal from combination meter to ABS actuator and electric unit (control unit).

VDC OFF Switch

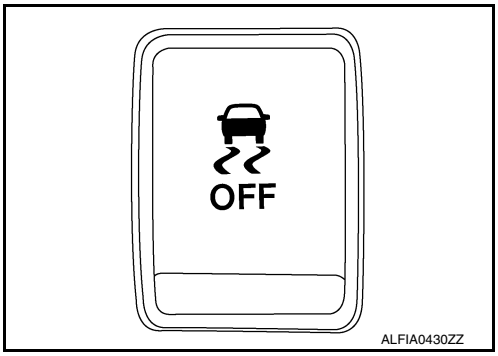
INFOID:0000000013229791

- This is an integrated switch with switches for other functions.
- Non-operational status or standby status of the following functions can be selected using VDC OFF switch. VDC OFF indicator lamp indicates the operation status of function (ON: Non-operational status, OFF: Standby status).

- Vehicle Dynamic Control function
- Traction Control System function

NOTE:
ABS function and EBD function operate.

- VDC OFF indicator lamp turns OFF (standby status) when the engine is started again after it is stopped once while VDC OFF indicator lamp is ON (non-operational status).



ADDITIONAL SERVICE WHEN REPLACING ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

Description

INFOID:0000000013229809

- When replacing the ABS actuator and electric unit (control unit), perform configuration of the ABS actuator and electric unit (control unit). Refer to BRC-70, "Work Procedure".
- When replacing the ABS actuator and electric unit (control unit), adjust the neutral position of steering angle sensor. Refer to BRC-66, "Work Procedure".
- When replacing the ABS actuator and electric unit (control unit), perform calibration of the decel G sensor. Refer to BRC-68, "Work Procedure".

C1143 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000013326294

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1143	ST ANG SEN CIRCUIT (Steering angle sensor circuit)	When a malfunction is detected in steering angle sensor.

POSSIBLE CAUSE

NOTE:
Confirm if DTC is PAST or CRNT. If DTC is CRNT, proceed with Diagnosis Procedure. If DTC is PAST, clear the DTC. Do not replace the ABS actuator and electric unit (control unit) for a PAST DTC.

PAST DTC	CRNT DTC
• Harness or connector • ABS actuator and electric unit (control unit) power supply system • Fuse • Fusible link • Battery • CAN communication line • Incomplete neutral position adjustment of steering angle sensor • Improper installation of steering angle sensor	• Harness or connector • Steering angle sensor • ABS actuator and electric unit (control unit) • IPDM E/R • CAN communication line • Wheel alignment • Incomplete neutral position adjustment of steering angle sensor • ABS actuator and electric unit (control unit) power supply system • Fuse • Fusible link • Battery

DTC CONFIRMATION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

CONSULT

1. Turn the ignition switch OFF.
   NOTE:
   Wait at least 10 seconds after turning ignition switch OFF.
2. Start the engine.
   NOTE:
   Wait at least 10 seconds after starting the engine.
3. Select “Self Diagnostic Result” mode of “ABS”.

Is DTC “C1143” detected?

YES-1 >> “C1143” is displayed as “CRNT”: Proceed to BRC-116, "Diagnosis Procedure".
YES-2 >> “C1143” is displayed as “PAST”: Inspection End. (Erase “Self Diagnostic Result” mode of “ABS”.)
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000013326295

1.ADJUST THE NEUTRAL POSITION OF STEERING ANGLE SENSOR

CONSULT

Perform neutral position adjustment of steering angle sensor. Refer to BRC-66, "Description".

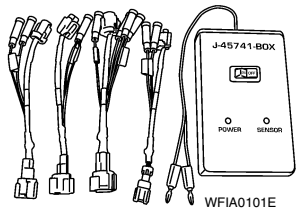
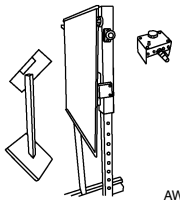
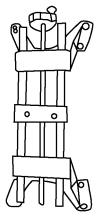
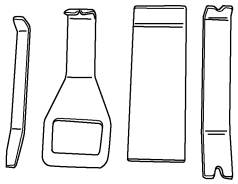
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000013230012

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name		Description
KV991J0080 (J-45741) ABS active wheel sensor tester	 WFIA0101E	Checking operation of ABS active wheel sensors
— (1-20-2851-1) ICC Alignment Kit	 AWOIA0016ZZ	Adjusting ICC sensor
— (1-20-2722-1-IF) Wheel Adaptor	 AWOIA0017ZZ	Adjusting ICC sensor
— (J-46534) Trim Tool Set	 AWJIA0483ZZ	Removing trim components

Commercial Service Tools

INFOID:0000000013230013

Tool name	Description

DTC	Display item	VDC warning lamp	ABS warning lamp	Brake warning lamp	Refer to:
C1153	EMERGENCY BRAKE	ON	ON	ON	BRC-272, "Diagnosis Procedure"
C1154	PNP POS SIG	ON	ON	OFF	BRC-308, "Diagnosis Procedure"
C1155	BR FLUID LEVEL LOW	ON	OFF	OFF	BRC-313, "Component Inspection"
C1160	DECEL G SEN SET	ON	ON	OFF	BRC-314, "Diagnosis Procedure"
C1164	CV 1	ON	ON	ON	BRC-316, "Diagnosis Procedure"
C1165	CV 2	ON	ON	ON	
C1166	SV 1	ON	ON	ON	BRC-318, "Diagnosis Procedure"
C1167	SV 2	ON	ON	ON	
C1170	VARIANT CODING	ON	ON	OFF	BRC-320, "Diagnosis Procedure"
U1000	CAN COMM CIRCUIT	ON	OFF	OFF	BRC-322, "Diagnosis Procedure"

C1109 POWER AND GROUND SYSTEM

DTC Description

INFOID:0000000013230078

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1109	BATTERY VOLTAGE [ABNORMAL] (Battery voltage [abnormal])	When ignition power supply voltage is in following state: • Ignition power supply voltage: 10 V ≥ ignition power supply voltage • Ignition power supply voltage: 16 V ≤ ignition power supply voltage

POSSIBLE CAUSE

NOTE:
Confirm if DTC is PAST or CRNT. If DTC is CRNT, proceed with Diagnosis Procedure. If DTC is PAST, clear the DTC. Do not replace the ABS actuator and electric unit (control unit) for a PAST DTC.

PAST DTC	CRNT DTC
• Harness or connector • ABS actuator and electric unit (control unit) power supply system • Fuse • Fusible link • Battery • Charge system	• Harness or connector • ABS actuator and electric unit (control unit) • IPDM E/R • ABS actuator and electric unit (control unit) power supply system • Fuse • Fusible link • Battery • Charge system

DTC CONFIRMATION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

CONSULT
1. Turn the ignition switch OFF.
   NOTE:
   Wait at least 10 seconds after turning ignition switch OFF.
2. Start the engine.
   NOTE:
   Wait at least 10 seconds after starting the engine.
3. Select “Self Diagnostic Result” mode of “ABS”.

Is DTC “C1109” detected?

YES-1 >> “C1109” is displayed as “CRNT”: Proceed to BRC-269, "Diagnosis Procedure".
YES-2 >> “C1109” is displayed as “PAST”: Inspection End. (Erase “Self Diagnostic Result” mode of “ABS”.)
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000013230079

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Check the ABS actuator and electric unit (control unit) harness connector for disconnection or looseness.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness or connector and securely lock the connector. GO TO 2.

C1170 VARIANT CODING

DTC Description

INFOID:0000000013230116

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1170	VARIANT CODING (Variant coding)	When the information in ABS actuator and electric unit (control unit) is not the same.

POSSIBLE CAUSE

NOTE:
Confirm if DTC is PAST or CRNT. If DTC is CRNT, proceed with Diagnosis Procedure. If DTC is PAST, clear the DTC. Do not replace the ABS actuator and electric unit (control unit) for a PAST DTC.

PAST DTC	CRNT DTC
—	• ABS actuator and electric unit (control unit) • ABS actuator and electric unit (control unit) is not configured.

DTC CONFIRMATION PROCEDURE

1.PRECONDITIONING

If “DTC CONFIRMATION PROCEDURE” has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

2.CHECK DTC DETECTION

CONSULT

1. Turn the ignition switch OFF.
   NOTE:
   Wait at least 10 seconds after turning ignition switch OFF.
2. Start the engine.
   NOTE:
   Wait at least 10 seconds after starting the engine.
3. Select “Self Diagnostic Result” mode of “ABS”.

Is DTC “C1170” detected?

YES-1 >> “C1170” is displayed as “CRNT”: Proceed to BRC-320, "Diagnosis Procedure".
YES-2 >> “C1170” is displayed as “PAST”: Inspection End. (Erase “Self Diagnostic Result” mode of “ABS”)
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000013230117

1.CONFIGURATION OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

Perform configuration of ABS actuator and electric unit (control unit). Refer to BRC-70, "Work Procedure".
CAUTION:
Never replace the ABS actuator and electric unit (control unit).

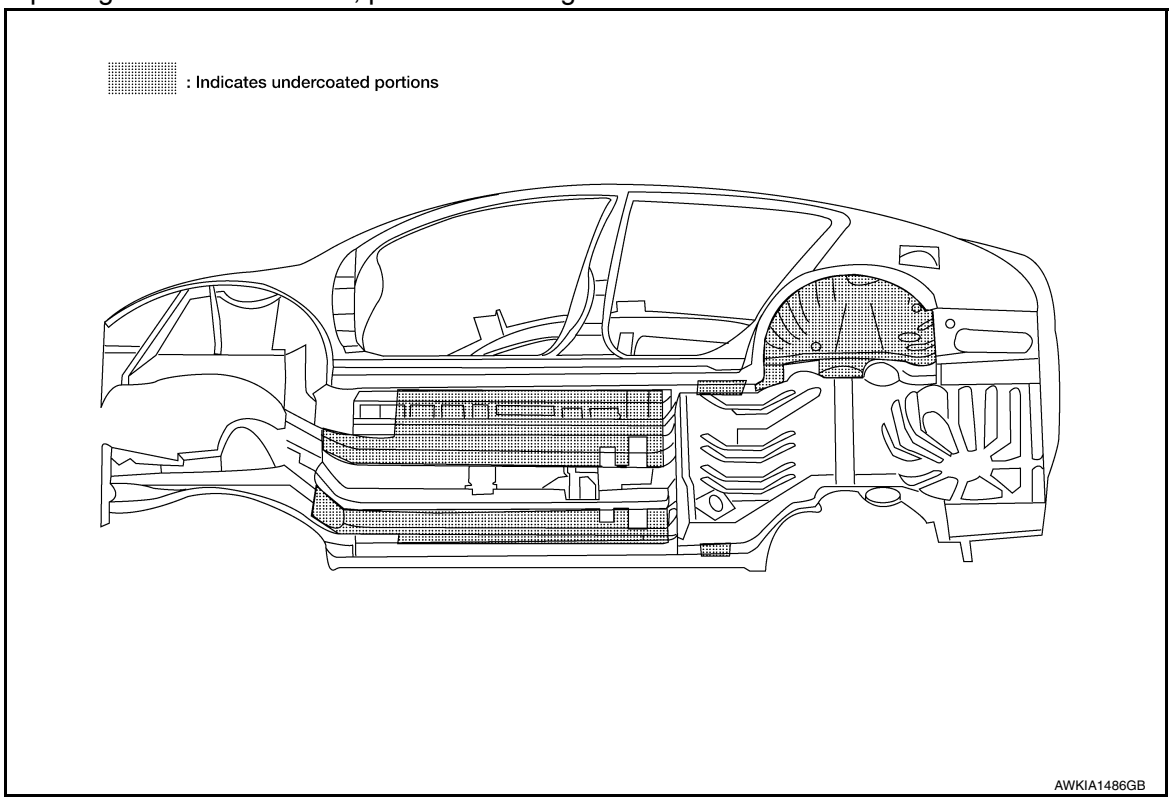
>> GO TO 2.

2.CHECK SELF DIAGNOSTIC RESULTS

CONSULT

Replace the ABS actuator and electric unit (control unit) even if other DTC’s are displayed along with “C1170” in “Self Diagnostic Result” mode of “ABS”.

5. After putting seal on the vehicle, put undercoating on it.



With ICC system, the driver can maintain the same speed as other vehicles without the constant need to adjust the set speed as the driver would with a normal cruise control system.
The following items are controlled in the ICC system:

- When there are no vehicles traveling ahead, the ICC system maintains the speed set by the driver. The set speed range is between approximately 32 and 144 km/h (20 and 90 MPH).
- When there is a vehicle traveling ahead, the ICC system adjusts the speed to maintain the distance, selected by driver, from a vehicle ahead. The adjusting speed range is up to the set speed.
- When the vehicle traveling ahead has moved from its lane of travel, the ICC system accelerates and maintains vehicle speed up to the set speed.

CAUTION:
If the vehicle ahead comes to a stop, the vehicle decelerates to a standstill within the limitations of the system. The system will cancel once it judges that the vehicle has come to a standstill and sound a warning chime.
To prevent the vehicle from moving, the driver must depress the brake pedal.
NOTE:
When the accelerator pedal is depressed, the brake operation and the warning are not performed by the ICC system.

OPERATION DESCRIPTION

Push and release the MAIN switch ON.
The MAIN switch indicator, set distance indicator and set vehicle speed indicator come on and ICC system is set to a standby state.
ADAS control unit performs the control as per the following:

Constant speed	Comparing the set vehicle speed with the current vehicle speed, it transmits the command to ECM via CAN communication to reach the set vehicle speed and controls the electric throttle control actuator.
Deceleration	When a vehicle ahead (slower than driver set vehicle speed) appears or when a vehicle ahead slows down, the system controls the electric throttle control actuator into the close direction and decelerates the vehicle. If greater deceleration is necessary, the system transmits the brake fluid pressure control signal to the ABS actuator and electric unit (control unit) via CAN communication and operates the brake.
Following	The system controls the electric throttle control actuator and the brake fluid pressure to keep the proper distance between the vehicles according to the vehicle speed change of the vehicle ahead.
Acceleration	When a vehicle ahead is not detected because it changes lanes or own vehicle changes lanes during the following driving, the system controls the electric throttle control actuator to the open direction and accelerates the vehicle to the set vehicle speed slowly.

Set Condition

Under a standby state, pushing down the SET/COAST switch will start system control.

- When vehicle speed is between approximately 32 km/h and 144 km/h (20 MPH and 90 MPH).
- When vehicle speed is below approximately 32 km/h (20 MPH) if a vehicle ahead is detected. The set vehicle speed becomes 32 km/h (20 MPH).

If the system is canceled by conditions 1-6 below, the system will resume control at the last set cruising speed by pushing up the RESUME/ACCELERATE switch.
NOTE:

- When the SET/COAST switch is pushed under the following conditions, the system cannot be set and the set vehicle speed indicator will blink for approximately 2 seconds:
- When traveling below 32 km/h (20 MPH) and the vehicle ahead is not detected.
- When the selector lever is not in the “D” position or manual mode.
- When the parking brake is applied.
- When the brakes are operated by the driver.
- When the SET/COAST switch is pushed under the following conditions, the system cannot be set and a warning chime will sound and display causes in combination meter (information display):
- When the VDC is OFF. (To use the ICC system, turn ON the VDC system, push the MAIN switch to turn OFF the ICC system and reset the ICC system by pushing the MAIN switch again.)
- When ABS or VDC (including the TCS) operates.
- When the wheel is slipping. (To use the ICC system, make sure the wheels are no longer spinning, push the MAIN switch to turn OFF the ICC system and reset the ICC system by pushing the MAIN switch again.)

Cancel Conditions

1. When CANCEL switch is pressed.
2. When brake pedal is depressed.
3. When the vehicle ahead is not detected below the speed of 24 km/h (15 MPH).

ACTION TEST

Description

INFOID:0000000013296169

Always perform the ICC system action test to check that the ICC system operates normally after replacing the ICC sensor or repairing any ICC system malfunction.

CAUTION:

- **Always drive safely when performing the action test.**

Work Procedure

INFOID:0000000013296170

NOTE:

- When there is no vehicle ahead, drive at the set speed steadily.
- When there is a vehicle ahead, control to maintain distance from the vehicle ahead, watching its speed.
- The running speed can be set between 32 km/h (20 MPH) and 144 km/h (90 MPH).

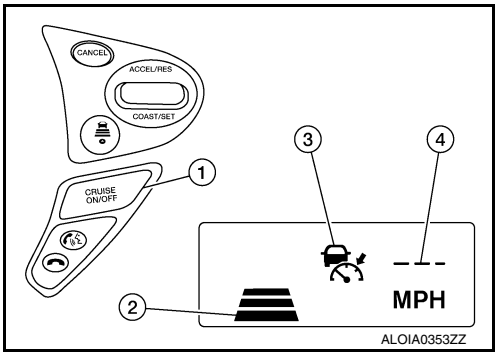
CAUTION:

Never set the cruise speed exceed the posted speed limit.

1.CHECK FOR MAIN SWITCH

1. Start the engine.
2. Press the MAIN switch (1) (for less than 1.5 seconds).

Information display status		
Set distance indicator (2)	:	Long mode
MAIN switch indicator (3)	:	ON
Set vehicle speed indicator (4)	:	"____" "km/h" ("MPH")



3. Check the ICC system display on the information display to check that the Intelligent Cruise Control is ready for activation.
4. Press the MAIN switch, and check that the ICC system display on the information display turns OFF when the ICC system is deactivated.
5. Check that the ICC system display on the information display turns OFF after starting the engine again.

>> GO TO 2.

2.CHECK FOR DISTANCE SWITCH

1. Start the engine.
2. Press the MAIN switch (for less than 1.5 seconds).
3. Press the DISTANCE switch.

MAIN SWITCH DOES NOT TURN ON, MAIN SWITCH DOES NOT TURN OFF

Description

INFOID:0000000013296244

MAIN switch does not turn ON
• ICC system display does not appear even when MAIN switch is pressed.

MAIN switch does not turn OFF
• When ICC system display is ON, display does not turn OFF even if MAIN switch is pressed.

NOTE:
When ICC system warning lamp illuminates, perform the self-diagnosis of ICC system, and then repair or replace the malfunctioning parts.

Diagnosis Procedure

INFOID:0000000013296245

1.MAIN SWITCH INSPECTION

CONSULT
1. Start the engine.
2. Check that “MAIN SW” and “CRUISE LAMP” operate normally in “Data Monitor” mode of “ICC/ADAS”.

Is the inspection result normal?

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

2.CHECK COMBINATION METER

CONSULT
Check that “CRUISE IND” operates normally in “Data Monitor” mode of “METER/M&A”.

Is the inspection result normal?

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

3.PERFORM SELF DIAGNOSTIC RESULT OF COMBINATION METER

CONSULT
1. Select “Self Diagnostic Result” mode of “METER/M&A”.
2. Check if DTC is detected. Refer to MWI-26, "DTC Index".

Is any DTC detected?

YES >> Repair or replace malfunctioning parts.
NO >> GO TO 4.

4.PERFORM SELF DIAGNOSTIC RESULT OF ICC SYSTEM

CONSULT
1. Select “Self Diagnostic Result” mode of “ICC/ADAS”.
2. Check if DTC “U1000” is detected in.

Is “U1000” detected?

YES >> GO TO 5.
NO >> GO TO 6.

5.CAN COMMUNICATION INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to LAN-8, "CAN COMMUNICATION SYSTEM : System Description".

>> Inspection End.

6.CHECK ICC STEERING SWITCH

Check the ICC steering switch. Refer to AV-60, "Exploded View".

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Generator

INFOID:0000000012782744

Type		2611855
		Valeo
Nominal rating	[V - A]	14 -110
Ground polarity		Negative
Minimum revolution under no-load (When 13.5 V is applied)	[rpm]	Less than 1,200
Hot output current (When 13.5 V is applied)	[A/rpm]	More than 41/1,500 More than 109/3,000 More than 118/5,000
Regulated output voltage	[V]	11.7 - 15.3

*: Always check with the Parts Department for the latest parts information.

U0415 VDC CAN 1

DTC Logic

INFOID:0000000013312561

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
U0415	VDC CAN CIR1 (VDC CAN circuit 1)	If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled:
- Intelligent Cruise Control (ICC)
- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0415” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to DAS-57, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Select “All DTC Reading” mode.
4. Check if “U0415” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U0415” detected as the current malfunction?

YES >> Refer to DAS-55, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000013312562

1.CHECK DTC PRIORITY

If DTC “U0415” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to DAS-57, "DTC Logic".
NO >> GO TO 2.

2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-217, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-67, "Removal and Installation".

Fail-safe (Side Radar)

INFOID:0000000013312623

FAIL-SAFE CONTROL BY DTC

Blind Spot Warning (BSW)/Rear Cross Traffic Alert (RCTA)
If a malfunction occurs in the side radar, ADAS control unit cancels control and turns ON the Blind Spot Warning indicator (orange) on the combination meter.

TEMPORARY DISABLED STATUS AT BLOCKAGE

Blind Spot Warning (BSW)
When the side radar is blocked, the operation is temporarily canceled. Then the buzzer sounds and the Blind Spot Warning indicator (orange) is turned ON in the combination meter. Also, under the following conditions, the operation may be temporarily canceled:
- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

Rear Cross Traffic Alert (RCTA)
When the side radar is blocked, the operation is temporarily canceled. Then the buzzer sounds and the Blind Spot Warning indicator (orange) is turned ON in the combination meter. Also, under the following conditions, the operation may be temporarily canceled.
- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

DTC Inspection Priority Chart

INFOID:0000000013312624

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	Detected items (DTC)
1	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
2	• U0104: ADAS CAN CIR 1 • U0405: ADAS CAN CIR 2
3	C1B50: SIDE RDR MALFUNCTION
4	• C1B51: BSW/BSI IND SHORT CIR • C1B52: BSW/BSI IND OPEN CIR • C1B55: RADAR BLOCKAGE

DTC Index

INFOID:0000000013312625

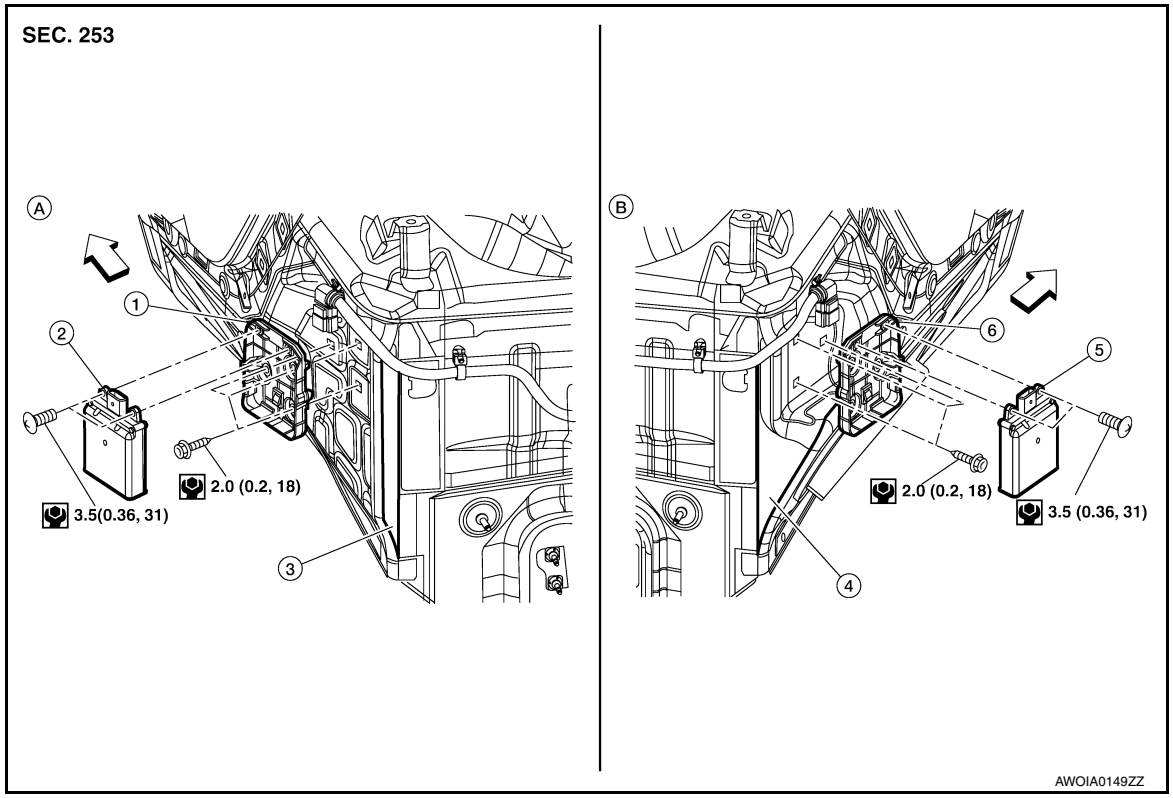
×: Applicable

DTC		Fail-safe	Reference page
		Blind Spot Warning/Rear Cross Traffic Alert	
C1B50	SIDE RDR MALFUNCTION	×	DAS-126
C1B51	BSW/BSI IND SHORT CIR	×	DAS-127
C1B52	BSW/BSI IND OPEN CIR	×	DAS-129
C1B55	RADAR BLOCKAGE	×	DAS-131
U1000	CAN COMM CIRCUIT	×	DAS-137
U1010	CONTROL UNIT (CAN)	×	DAS-140
U0104	ADAS CAN CIR1	×	DAS-133
U0405	ADAS CAN CIR2	×	DAS-135

SIDE RADAR

Exploded View

INFOID:0000000013312681



1. Side radar bracket (LH)
2. Side radar (LH)
3. Rear fender (LH)
4. Rear fender (RH)
5. Side radar (RH)
6. Side radar bracket (RH)

A. LH side
B. RH side
⇦ Front

Removal and Installation

INFOID:0000000013312682

REMOVAL

1. Remove rear bumper fascia. Refer to EXT-20, "Removal and Installation".
2. Disconnect harness connector from side radar.
3. Remove screws from side radar.
4. Tip upper end of side radar outward and remove side radar.
5. If necessary, remove screws and remove side radar mounting bracket

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

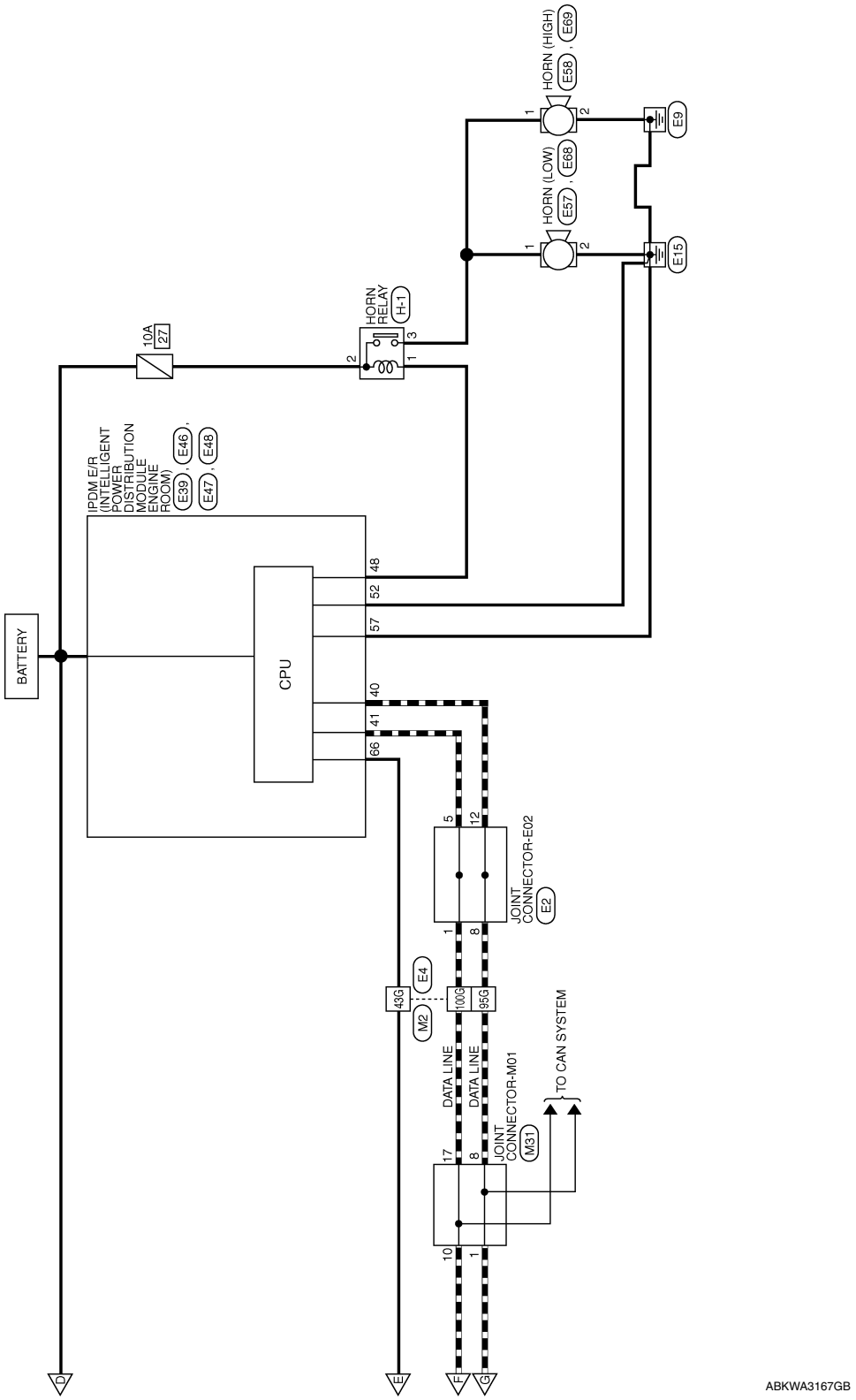
- **Do not use side radar if lens has flaws.**
- **Perform Blind Spot Warning system action test after side radar installation is complete. Refer to DAS-124, "BLIND SPOT WARNING : Description".**
- **Perform the Rear Cross Traffic Alert action test after side radar installation is complete. Refer to DAS-125, "RCTA : Description".**

NOTE:

Do not touch side radar lens and keep lens area clean.

SECTION DLK
DOOR & LOCK

CONTENTS


HORN (HIGH)
E69
E58
E9
HORN (LOW)
E68
E57
E15
HORN RELAY
H-1
10A
27
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E46
E48
E39
E47
BATTERY
CPU
48
52
57
40
41
66
JOINT CONNECTOR-E02
E2
E4
43G
M2
100G
95G
DATA LINE
DATA LINE
JOINT CONNECTOR-M01
M31
TO CAN SYSTEM
D
E
F
G
ABKWA3167GB

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-78, "Removal and Installation".
NO >> Repair or replace harness.

3.CHECK UNLOCK SENSOR GROUND CIRCUIT

Check continuity between front door lock assembly LH harness connector and ground.

Front door lock assembly LH		Ground	Continuity
Connector	Terminal		
D9	4		Yes

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK UNLOCK SENSOR

Refer to DLK-103, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace front door lock assembly LH. Refer to DLK-174, "FRONT DOOR LOCK : Removal and Installation".

5.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000012783115

1.CHECK UNLOCK SENSOR

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH connector.
3. Check continuity between front door lock assembly LH terminals.

Front door lock assembly LH		Condition		Continuity
Terminal				
3	4	Driver side door	Unlock	Yes
			Lock	No

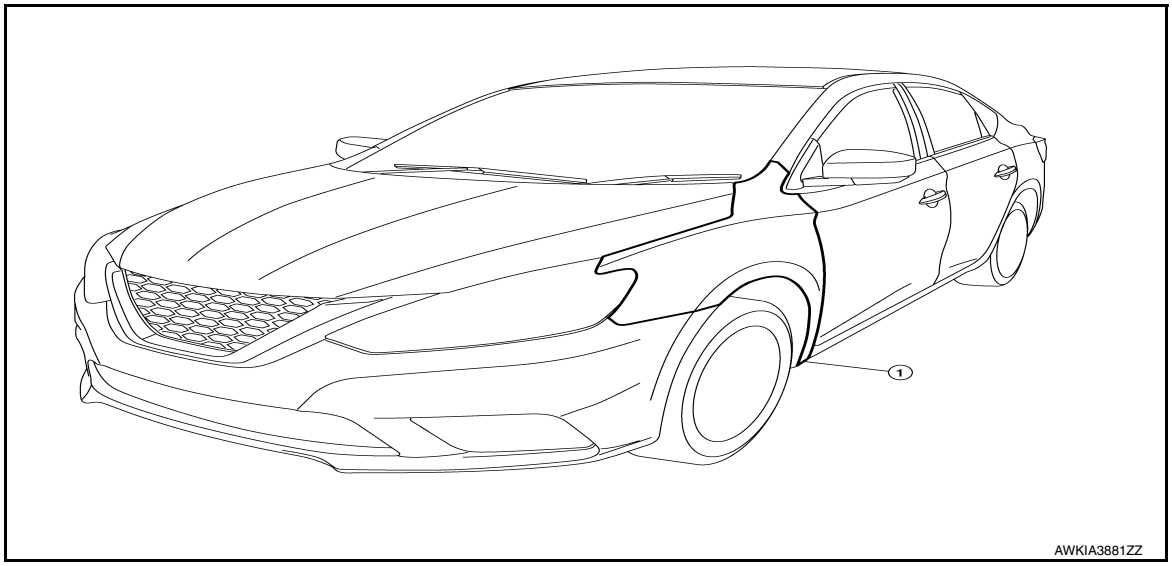
Is the inspection result normal?

YES >> Inspection End.
NO >> Replace front door lock assembly LH. Refer to DLK-174, "FRONT DOOR LOCK : Removal and Installation".

FRONT FENDER

Exploded View

INFOID:0000000012783193



1. Front fender

Removal and Installation

INFOID:0000000012783194

REMOVAL

1. Remove the front combination lamp. Ref to EXL-127, "Removal and Installation" (HALOGEN), EXL-257, "Removal and Installation" (LED).
2. Remove the front bumper fascia. Refer to EXT-17, "Removal and Installation".
3. Remove the front fender protector. Refer to EXT-28, "FENDER PROTECTOR : Removal and Installation - Front Fender Protector".
4. Remove the front fender bolts and the front fender.
   CAUTION:
   Use shop cloths to protect the body from being damaged during removal and installation.

INSTALLATION

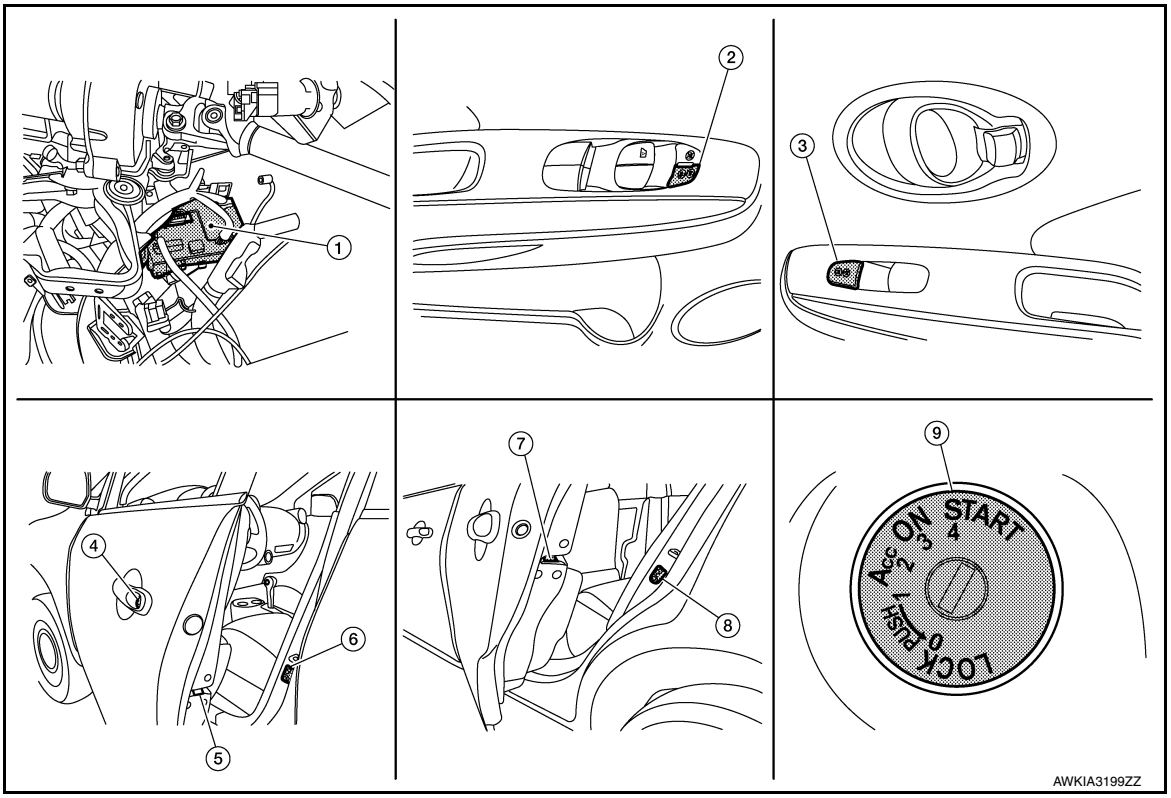
Installation is in the reverse order of removal.

CAUTION:

After installation, perform fender adjustment procedure. Refer to DLK-155, "Adjustment".

POWER DOOR LOCK SYSTEM : Component Parts Location

INFOID:0000000012783248



1. BCM (view with instrument panel removed)
2. Main power window and door lock/unlock switch
3. Power window and door lock/unlock switch RH
4. Front door lock key cylinder switch LH
5. Front door lock actuator LH (RH similar)
6. Front door switch LH (RH similar)
7. Rear door lock actuator LH (RH similar)
8. Rear door switch LH (RH similar)
9. Key switch

POWER DOOR LOCK SYSTEM : Component Description

INFOID:0000000012783249

Item	Function
BCM	Controls the door lock function.
Door lock and unlock switch	Input lock or unlock signal to BCM.
Door lock actuator	Output lock/unlock signal from BCM and locks/unlocks each door.
Door switch	Input door open/close condition to BCM.
Key switch	Input key switch condition to BCM.
Front door lock key cylinder switch LH	Input lock or unlock signal to the BCM.
ABS actuator and electric unit (control unit)	Transmits vehicle speed signal to CAN communication line.
Ignition switch	Input ignition switch ON/OFF condition to BCM.

REMOTE KEYLESS ENTRY SYSTEM

DOOR LOCK ACTUATOR
DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000012783292

Locks/unlocks the door with the signal from BCM.

DRIVER SIDE : Component Function Check

INFOID:0000000012783293

1.CHECK FUNCTION

1. Use CONSULT to perform Active Test (“DOOR LOCK”).
2. Touch “ALL LOCK” or “ALL UNLOCK” to check that it works normally.

Is the inspection result normal?

YES >> Door lock actuator is OK.
NO >> Refer to DLK-256, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

INFOID:0000000012783294

Regarding Wiring Diagram information, refer to DLK-226, "Wiring Diagram".

1.CHECK OUTPUT SIGNAL

Check voltage between BCM connector and ground.

Terminals			Condition of door lock and unlock switch	Voltage (V) (Approx.)
(+)		(–)		
BCM connector	Terminal			
M20	64	Ground	Unlock	0 → Battery voltage → 0
	66		Lock	0 → Battery voltage → 0

Is the inspection result normal?

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

2.CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM and front door lock actuator driver side connector.
3. Check continuity between BCM connector and front door lock actuator driver side connector.

BCM connector	Terminal	Door lock actuator connector	Terminal	Continuity
M20	64	D9	2	Yes
	66		1	

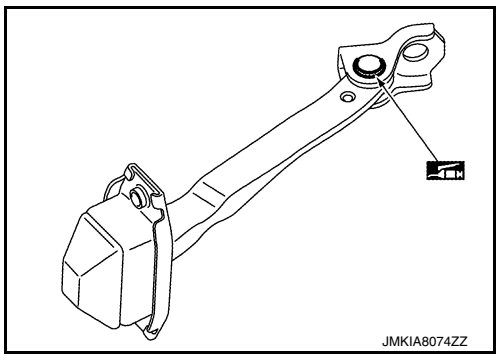
Is the inspection result normal?

YES >> Replace front door lock actuator LH.
NO >> Repair or replace harness.

3.CHECK DOOR LOCK ACTUATOR HARNESS

1. Turn ignition switch OFF.
2. Disconnect BCM and front door lock actuator driver side connector.
3. Check continuity between BCM connector M20 terminals 64, 66 and ground.

: Grease



ECO MODE

Component Function Check

INFOID:0000000012781981

1. CHECK ECO MODE OPERATION

1. Turn ignition switch ON.
2. Check ECO mode indicator lamp turns ON/OFF on combination meter when turn ECO mode switch ON/OFF.

Is the inspection result normal?

YES >> INSPECTION END.
NO >> Proceed to DMS-20, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012781982

1. CHECK DTC IN ECM

With CONSULT
Check “Self Diagnostic Results” in “ENGINE”.

Are any DTC detected?

YES >> Check DTC detected item. Refer to EC-95, "DTC Index".
NO >> GO TO 2.

2. CHECK DTC IN COMBINATION METER

With CONSULT
Check “Self Diagnostic Results” in “METER/M&A”.

Is any DTC detected?

YES >> Check DTC detected item. Refer to MWI-26, "DTC Index".
NO >> GO TO 3.

3. CHECK COMBINATION METER

With CONSULT
1. Select “Data Monitor” in “METER/M&A”.
2. Check that “ECO MODE IND” turns ON/OFF when ECO mode switch is operated. Refer to MWI-21, "Reference Value".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-74, "Removal and Installation".
NO >> GO TO 4.

4. CHECK ECO MODE SWITCH SYSTEM

Check ECO mode switch system. Refer to DMS-16, "Component Function Check".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace error-detected parts.

DTC/CIRCUIT DIAGNOSIS

SPORT MODE SWITCH

Component Function Check

INFOID:0000000012782020

1. CHECK SPORT MODE SWITCH OPERATION

1. Turn ignition switch ON.
2. Check SPORT mode indicator lamp turns ON/OFF on combination meter when turn SPORT mode switch ON/OFF.

Is the inspection result normal?

YES >> INSPECTION END.
NO >> Proceed to DMS-71, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012782021

Regarding Wiring Diagram information, refer to DMS-65, "Wiring Diagram".

1. DETECT MALFUNCTIONING ITEMS

What is malfunction items?

SPORT mode switch illumination does not turns ON>>GO TO 2.
SPORT mode indicator lamp does not turns ON>>GO TO 8.

2. CHECK SPORT MODE SWITCH ILLUMINATION POWER SUPPLY (1)

1. Turn OFF the headlamp.
2. Turn ignition switch OFF.
3. Disconnect SPORT mode switch harness connector.
4. Turn ignition switch ON.
5. Turn ON the headlamp.
6. Check the voltage between SPORT mode switch harness connector terminals.

SPORT mode switch			Voltage
Connector	+	-	
	Terminal		
M81	1	4	Battery voltage

Is the inspection result normal?

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

3. CHECK INTERMITTENT INCIDENTE

Refer to GI-41, "Intermittent Incident".

Is the inspection result normal?

YES >> Replace SPORT mode switch. Refer to DMS-76, "Removal and Installation".
NO >> Replace the fuse after repair the applicable circuit.

4. CHECK SPORT MODE SWITCH ILLUMINATION POWER SUPPLY (2)

Check the voltage between SPORT mode switch harness connector and ground.

- Reset operation is performed by operating the meter control switch on the combination meter. Refer to MWI-17, "Description".
- When the reset operation is performed, the combination meter transmits a fuel filler cap warning reset signal to ECM via CAN communication. ECM transmits a fuel filler cap warning display signal (request for display OFF) to the combination meter via CAN communication. When receiving the signal, the combination meter turns OFF the fuel filler cap warning display.
- EVAP leak diagnosis result is normal.
- Fuel refilled.
- DTC erased by using CONSULT.

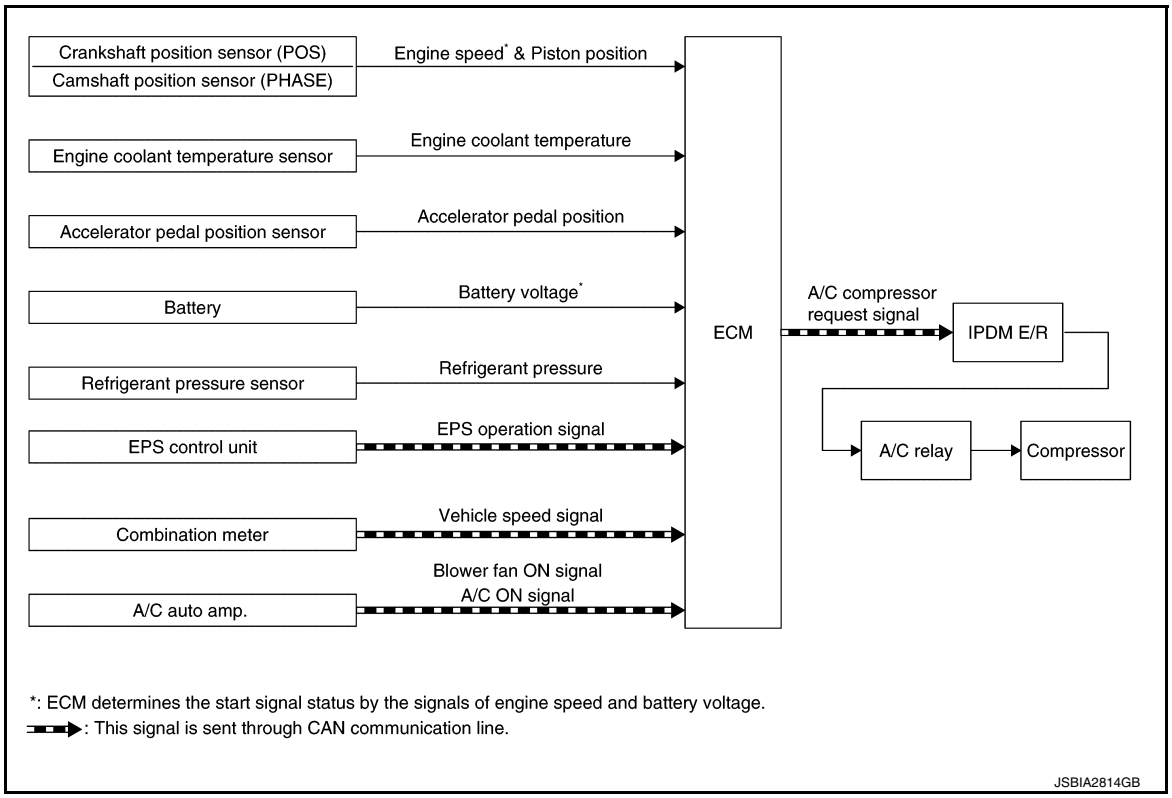
NOTE:
MIL turns ON if a malfunction is detected in leak diagnosis results again at the trip after the fuel filler cap warning display turns ON/OFF.

AIR CONDITIONING CUT CONTROL

AIR CONDITIONING CUT CONTROL : System Description

INFOID:0000000012787893

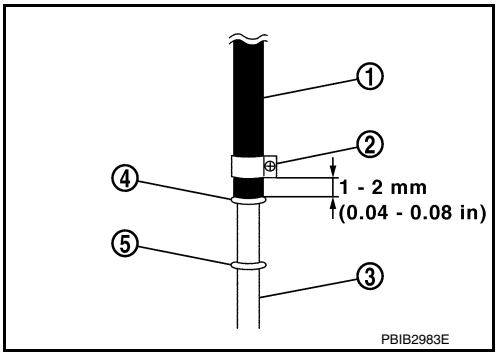
SYSTEM DIAGRAM



INPUT/OUTPUT SIGNAL CHART

DTC[*1]		Items (CONSULT screen terms)	SRT code	Trip	MIL	Permanent DTC group[*4]	Reference page
CONSULT GST[*2]	ECM[*3]						
P0453	0453	EVAP SYS PRES SEN	—	2	×	B	EC-318
P0456	0456	EVAP VERY SML LEAK	×[*7]	2	×	A	EC-322
P0460	0460	FUEL LEV SEN SLOSH	—	2	×	A	EC-328
P0461	0461	FUEL LEVEL SENSOR	—	2	×	B	EC-329
P0462	0462	FUEL LEVL SEN/CIRC	—	2	×	B	EC-331
P0463	0463	FUEL LEVL SEN/CIRC	—	2	×	B	EC-331
P0500	0500	VEHICLE SPEED SEN A[*8]	—	2	×	B	EC-332 (CVT models) EC-333 (M/T models)
P0506	0506	ISC SYSTEM	—	2	×	B	EC-336
P0507	0507	ISC SYSTEM	—	2	×	B	EC-338
P050A	050A	COLD START CONTROL	—	2	×	A	EC-340
P050B[*9]	050B[*9]	COLD START CONTROL	—	2	×	A	EC-340
P050E	050E	COLD START CONTROL	—	2	×	A	EC-340
P0520	0520	EOP SENSOR/SWITCH	—	2	—	—	EC-342
P0524	0524	ENGINE OIL PRESSURE	—	1	—	—	EC-345
P0603	0603	ECM BACK UP/CIRCUIT[*10]	—	2	× or —	B	EC-348
P0604	0604	ECM	—	1	×	B	EC-349
P0605	0605	ECM	—	1 or 2	× or —	B	EC-350
P0606	0606	CONTROL MODULE	—	1	× or —	B	EC-351
P0607	0607	ECM	—	1 or 2	× or —	B	EC-352
P060A	060A	CONTROL MODULE	—	1 or 2	×	B	EC-353
P060B	060B	CONTROL MODULE	—	1	×	B	EC-354
P0643	0643	SENSOR POWER/CIRC	—	1	×	B	EC-355
P0850	0850	P-N POS SW/CIRCUIT	—	2	×	B	EC-357
P1078	1078	EXH TIM SEN/CIRC-B1	—	2	×	B	EC-361
P1148	1148	CLOSED LOOP-B1	—	1	×	A	EC-364
P1212	1212	TCS/CIRC	—	2	—	—	EC-365
P1217	1217	ENG OVER TEMP	—	1	×	B	EC-366
P1225	1225	CTP LEARNING-B1	—	2	—	—	EC-369
P1226	1226	CTP LEARNING-B1	—	2	—	—	EC-370
P1550	1550	BAT CURRENT SENSOR	—	2	—	—	EC-371
P1551	1551	BAT CURRENT SENSOR	—	2	—	—	EC-374
P1552	1552	BAT CURRENT SENSOR	—	2	—	—	EC-374
P1553	1553	BAT CURRENT SENSOR	—	2	—	—	EC-377
P1554	1554	BAT CURRENT SENSOR	—	2	—	—	EC-380
P1556	1556	BAT TMP SEN/CIRC	—	2	—	—	EC-383
P1557	1557	BAT TMP SEN/CIRC	—	2	—	—	EC-383
P1564	1564	ASCD SW	—	1	—	—	EC-385 (With ASCD) EC-388 (With ICC)

4. Connect fuel hose for fuel pressure check ① to fuel tube ③ with clamp ② as shown in the figure.



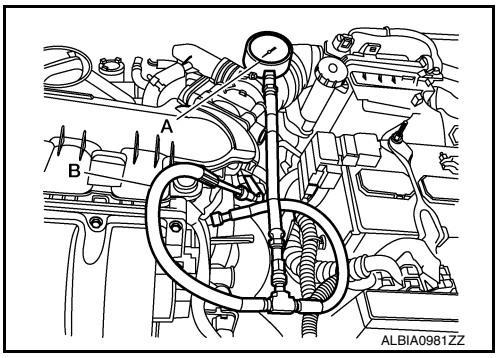
5: No. 2 spool

CAUTION:
- **Wipe off oil or dirt from hose insertion part using cloth moistened with gasoline.**
- **Apply proper amount of gasoline between top of the fuel tube and No. 1 spool ④.**
- **Insert fuel hose for fuel pressure check until it touches the No. 1 spool on fuel tube.**
- **Use NISSAN genuine hose clamp (part number: 16439 N4710 or 16439 40U00).**
- **When reconnecting fuel line, always use new clamps.**
- **Use a torque driver to tighten clamps.**

Tightening torque: **1 - 1.5 N·m (0.1 - 0.15 kg-m, 9 - 13 in-lb)**

- **Install hose clamp to the position within 1 - 2 mm (0.04 - 0.08 in).**
- **Make sure that clamp screw does not contact adjacent parts.**

5. Connect fuel tube adapter to quick connector.



A :Fuel pressure gauge
B :Fuel hose for fuel pressure check

After connecting fuel hose for fuel pressure check, pull the hose with a force of approximately 98 N (10 kg, 22 lb) to confirm high pressure fuel pump does not come off.

6. Turn ignition switch ON and check for fuel leakage.
7. Start engine and check for fuel leakage.
8. Read the indication of fuel pressure gauge.

CAUTION:
- **Do not perform fuel pressure check with system operating. Fuel pressure gauge may indicate false readings.**
- **During fuel pressure check, confirm for fuel leakage from fuel connection every 3 minutes.**

At idling : Approximately 350 kPa (3.5 bar, 3.57 kg/cm^2, 51 psi)

Is the inspection result normal?

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

2.CHECK FUEL HOSES

Check the following.
- Fuel hoses for clogging
- Fuel filter for clogging
- Fuel pump
- Fuel pressure regulator for clogging

Is the inspection result normal?

YES >> Replace fuel pressure regulator.
NO >> Repair or replace error-detected parts.

P0116 ECT SENSOR

DTC Logic

INFOID:0000000012787980

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detecting condition	Possible cause
P0116	ECT SEN/CIRC (Engine coolant temperature sensor 1 circuit range/performance)	The comparison result of signals transmitted to ECM from each temperature sensor (IAT sensor, ECT sensor, FTT sensor, and EOT sensor) shows that the voltage signal of the ECT sensor is higher/lower than that of other temperature sensors when the engine is started with its cold state.	• Harness or connectors (High or low resistance in the ECT sensor circuit) • ECT sensor

DTC CONFIRMATION PROCEDURE

1.INSPECTION START

Is it necessary to erase permanent DTC?

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

2.PERFORM COMPONENT FUNCTION CHECK

Perform component function check. Refer to EC-200, "Component Function Check".

NOTE:
Use the component function check to check the overall function of the ECT sensor circuit. During this check, a 1st trip DTC might not be confirmed.

Is the inspection result normal?

YES >> INSPECTION END
NO >> Proceed to EC-200, "Diagnosis Procedure".

3.PRECONDITIONING

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

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

TESTING CONDITION:

- **Before performing the following procedure, do not add fuel.**
- **Before performing the following procedure, check that fuel level is between 1/4 and 4/4.**
- **Before performing the following procedure, confirm that battery voltage is 11 V or more at idle.**

>> GO TO 4.

4.PERFORM DTC CONFIRMATION PROCEDURE

1. Move the vehicle to a cool place.
   NOTE:
   Cool the vehicle in an environment of ambient air temperature between −10°C (14°F) and 35°C (95°F).
2. Turn ignition switch OFF and leave the vehicle for 12 hours.
   CAUTION:
   Never turn ignition switch ON during this procedure.
   NOTE:
   The vehicle must be cooled with the hood open.
3. Start engine and let it idle for 5 minutes or more.
   CAUTION:
   Never turn ignition switch OFF during idling.
4. Check 1st trip DTC.

*2: For California

5. Check the continuity between A/F sensor 1 harness connector and ground, or ECM harness connector and ground.

+		–	Continuity
A/F sensor 1			
Connector	Terminal		
F12*1	1	Ground	Not existed
F42*2	2		

*1: Except California
*2: For California

+		–	Continuity
ECM			
Connector	Terminal		
F24	41	Ground	Not existed
	45		

6. Also check harness for short to power.

Is the inspection result normal?

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

4. CHECK FUEL PRESSURE

Check fuel pressure. Refer to EC-147, "Work Procedure".

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 5.

5. DETECT MALFUNCTIONING PART

Check fuel hoses and fuel tubes for clogging. Refer to EM-40, "Exploded View".

Is the inspection result normal?

YES >> Replace “fuel filter and fuel pump assembly”. Refer to FL-7, "Removal and Installation".
NO >> Repair or replace error-detected parts.

6. CHECK MASS AIR FLOW SENSOR

With CONSULT

1. Turn ignition switch OFF.
2. Reconnect all harness connectors disconnected.
3. Start engine and warm it up to normal operating temperature.
4. Connect CONSULT and select “DATA MONITOR” mode.
5. Select “MASS AIR FLOW SENSOR (Hz)” and check the indication.

Monitor item	Condition	Indication (Hz)
MASS AIR FLOW SENSOR (Hz)	Ignition switch ON (Engine stopped.)	Approx. 3,700 Hz
	Idle (Engine is warmed-up to normal operating temperature.)	5,100 – 5,500 Hz
	Idle to about 4,000 rpm	5,100 – 5,500 to Approx. 7,000 Hz*

*: Check for linear frequency rise in response to engine being increased to about 4,000 rpm.

Without CONSULT

1. Turn ignition switch OFF.
2. Reconnect all harness connectors disconnected.
3. Start engine and warm it up to normal operating temperature.
4. Check the frequency between ECM harness connector terminals under the following conditions.

NO >> GO TO 2.

2. CHECK EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R harness connector.
3. Check the continuity between EVAP canister purge volume control solenoid valve harness connector and IPDM E/R harness connector.

+		–		Continuity
EVAP canister purge volume control solenoid valve		IPDM E/R		
Connector	Terminal	Connector	Terminal	
F13	1	E45	25	Existed

4. Also check harness for short to ground.

Is the inspection result normal?

YES-1 (With CONSULT)>>GO TO 4.
YES-2 (Without CONSULT)>>GO TO 5.
NO >> Repair or replace error-detected parts.

3. CHECK EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE GROUND CIRCUIT

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

+		–		Continuity
EVAP canister purge volume control solenoid valve		ECM		
Connector	Terminal	Connector	Terminal	
F13	2	F24	17	Existed

4. Also check harness for short to power.

Is the inspection result normal?

YES-1 (With CONSULT)>>GO TO 4.
YES-2 (Without CONSULT)>>GO TO 5.
NO >> Repair or replace error-detected parts.

4. CHECK EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE OPERATION

With CONSULT
1. Reconnect all harness connectors disconnected.
2. Start engine.
3. Perform “PURG VOL CONT/V” in “ACTIVE TEST” mode of “ENGINE” using CONSULT.
4. Check that engine speed varies according to the valve opening.

Does engine speed vary according to the valve opening?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".
NO >> GO TO 5.

5. CHECK EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE

Check the EVAP canister purge volume control solenoid valve. Refer to EC-302, "Component Inspection (EVAP Canister Purge Volume Control Solenoid Valve)".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".
NO >> Replace EVAP canister purge volume control solenoid valve. Refer to EM-27, "Exploded View".

P0607 ECM

DTC Logic

INFOID:0000000012788121

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detecting condition	Possible cause
P0607	ECM (Control module performance)	ECM internal communication system is malfunctioning.	ECM

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 11 V or more with ignition switch ON.

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON (engine stopped) and wait least 10 seconds.
2. Turn ignition switch OFF and wait at least 10 seconds.
3. Turn ignition switch ON.
4. Check 1st trip DTC.

Is 1st trip DTC detected?

YES >> Proceed to EC-352, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000012788122

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure. Refer to EC-352, "DTC Logic".

Is the 1st trip DTC P0607 displayed again?

YES >> Replace ECM. Refer to EC-501, "Removal and Installation".
NO >> INSPECTION END

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace stop lamp switch. Refer to BR-23, "Exploded View".

- **Always drive vehicle at a safe speed.**

ENG SPEED	1,000 – 2,400rpm
COOLANT TEMP/S	More than 65°C (149°F)
B/FUEL SCHDL	5 – 9 msec
Selector lever	D position
SYSTEM 1 DIAGNOSIS B B1	PRSENT

NOTE:
- Drive the vehicle at approximately 88 km/h (55MPH) allows easy diagnosis.
- Keep the accelerator pedal as possible during crusing.

3. Check “SYSTEM 1 DIAGNOSIS A B1” indication.

Is “CMPLT” displayed?

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

5.PERFORM DTC CONFIRMATION PROCEDURE-3

Check 1st trip DTC.

Is 1st trip DTC detected?

YES >> Proceed to EC-454, "Diagnosis Procedure".
NO >> INSPECTION END

6.PERFORM DTC CONFIRMATION PROCEDURE-4

Without CONSULT

1. Start the engine and warm it up to normal operating temperature.
2. Drive vehicle under the following conditions for at least 5 consecutive seconds.

CAUTION:
- **Always drive vehicle at a safe speed.**

Engine speed	1,000 – 1,250 rpm
Calculated load value	26 – 46 %
Selector lever	D position

NOTE:
- Drive the vehicle at approximately 88 km/h (55MPH) allows easy diagnosis.
- Keep the accelerator pedal as possible during crusing.

3. Check 1st trip DTC.

Is 1st trip DTC detected?

YES >> Proceed to EC-454, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000012788224

1.CHECK FOR INTAKE AIR LEAK

1. Stop engine and check the following for connection.
- Air duct
- Vacuum hoses
- PCV hose
- Intake air passage between air duct to intake manifold
2. Start engine and let it idle.
3. Listen for an intake air leak after the mass air flow sensor.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace error-detected parts.

2.CHECK EXHAUST GAS LEAK

PRECAUTION

PRECAUTIONS

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

INFOID:0000000012787714

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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

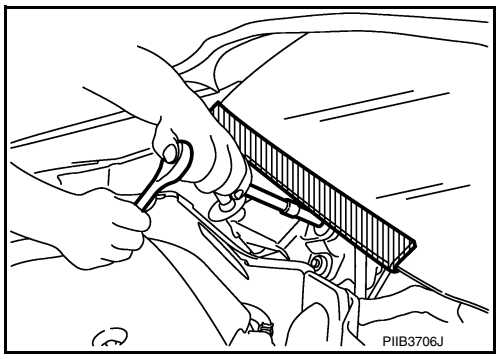
WARNING:

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

Precaution for Procedure without Cowl Top Cover

INFOID:0000000012787715

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.



Precautions For Engine Service

INFOID:0000000012787716

DISCONNECTING FUEL PIPING

- Before starting work, check no fire or spark producing items are in the work area.
- Release fuel pressure before disconnecting and disassembly.
- After disconnecting pipes, plug openings to stop fuel leakage.

DRAINING ENGINE COOLANT

Drain engine coolant and engine oil when the engine is cooled.

INSPECTION, REPAIR AND REPLACEMENT

Before repairing or replacing, thoroughly inspect parts. Inspect new replacement parts in the same way, and replace if necessary.

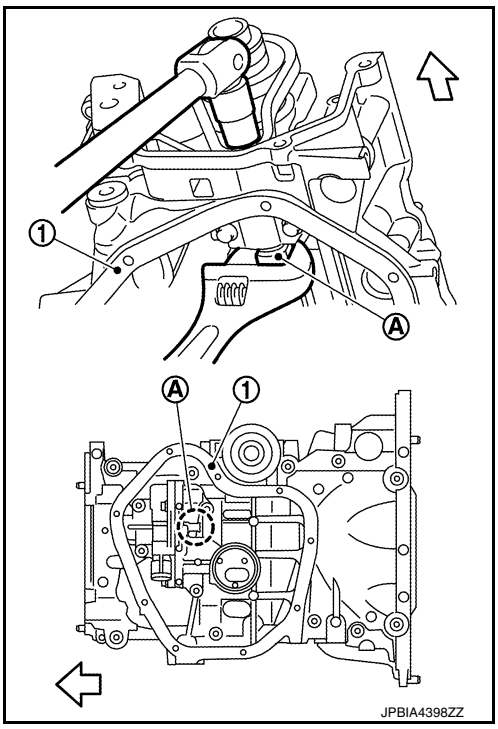
3. Hold the WAF part of oil pump shaft [WAF: 10 mm (0.39 in)] (A), and then tighten the oil pump shaft sprocket bolt.

(1) : Oil pan (upper)

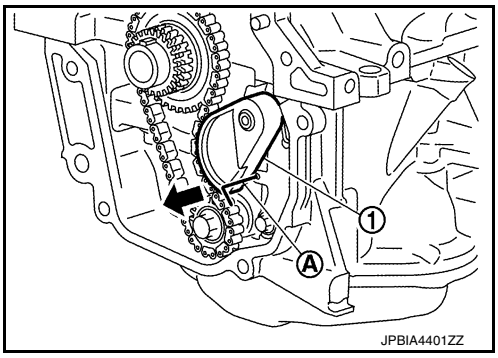
⇦ : Engine front

CAUTION:

- **Secure the oil pump shaft with the WAF part.**
- **Do not loosen the oil pump shaft sprocket bolt by tightening the oil pump drive chain.**



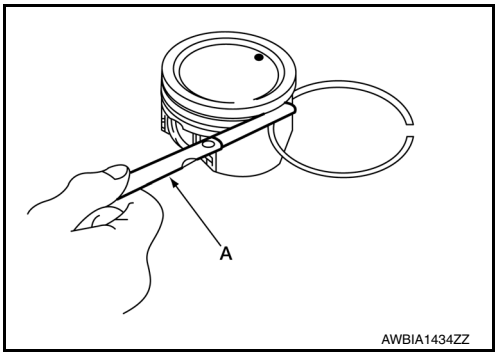
4. Install oil pump chain tensioner (1).
   - Fix the face of the oil pump tensioner at the most compressed position using a stopper pin (A), and then install it.
   - Securely pull out (⬅) the stopper pin after installing the oil pump chain tensioner.
   - Check matching mark position of oil pump drive chain and each sprocket again.



- 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.

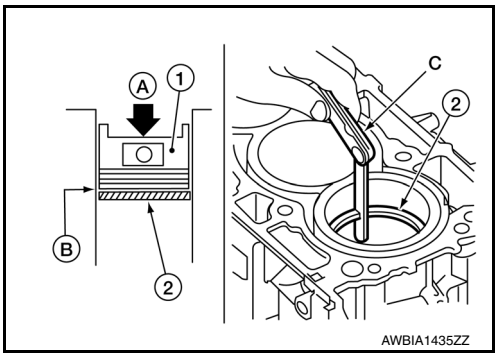


PISTON RING END GAP

- 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.



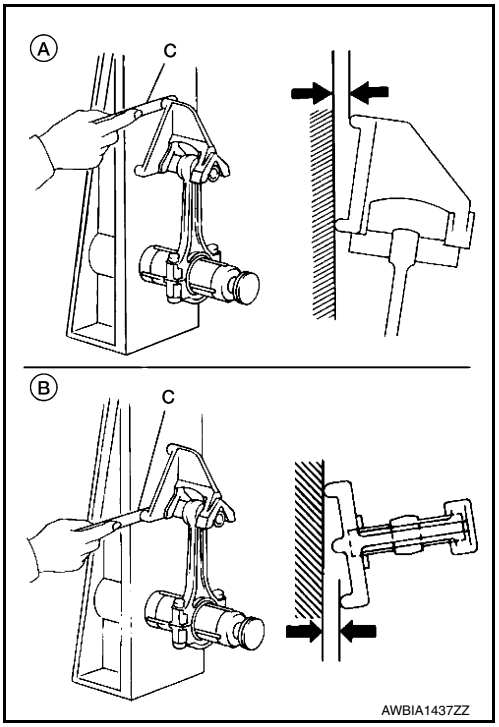
CONNECTING ROD BEND AND TORSION

- 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

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)
COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000013407937

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
ECU Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing BCM.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

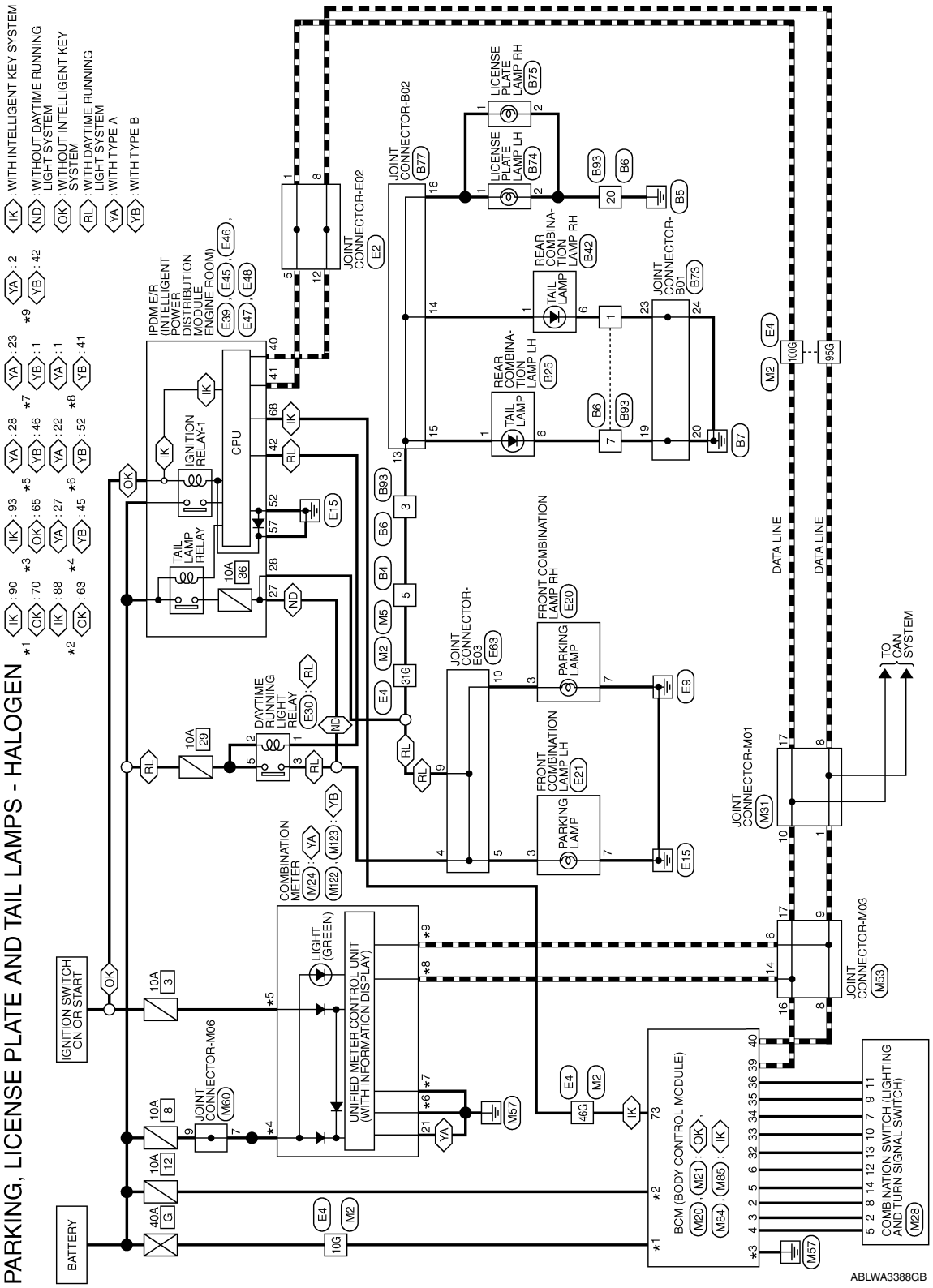
BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN DIAG SUPPORT MNTR
Door lock	DOOR LOCK			×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×		×		
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Trunk open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER				×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

PARKING, LICENSE PLATE AND TAIL LAMPS

Wiring Diagram

INFOID:0000000012782828



BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

INFOID:0000000012782865

The front fog lamps do not turn ON in any setting.

Diagnosis Procedure

INFOID:0000000012782866

1.COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (lighting and turn signal switch). Refer to BCS-76, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).

Is the inspection result normal?

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

2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

CONSULT DATA MONITOR
1. Select FR FOG REQ of IPDM E/R DATA MONITOR item.
2. While operating the front fog lamp switch, check the monitor status.

Monitor item	Condition		Monitor status
FR FOG REQ	Front fog lamp switch (Lighting switch 3rd)	ON	ON
		OFF	OFF

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-78, "Removal and Installation" (with Intelligent Key system) or BCS-135, "Removal and Installation" (without Intelligent Key system).

3.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-102, "Diagnosis Procedure".

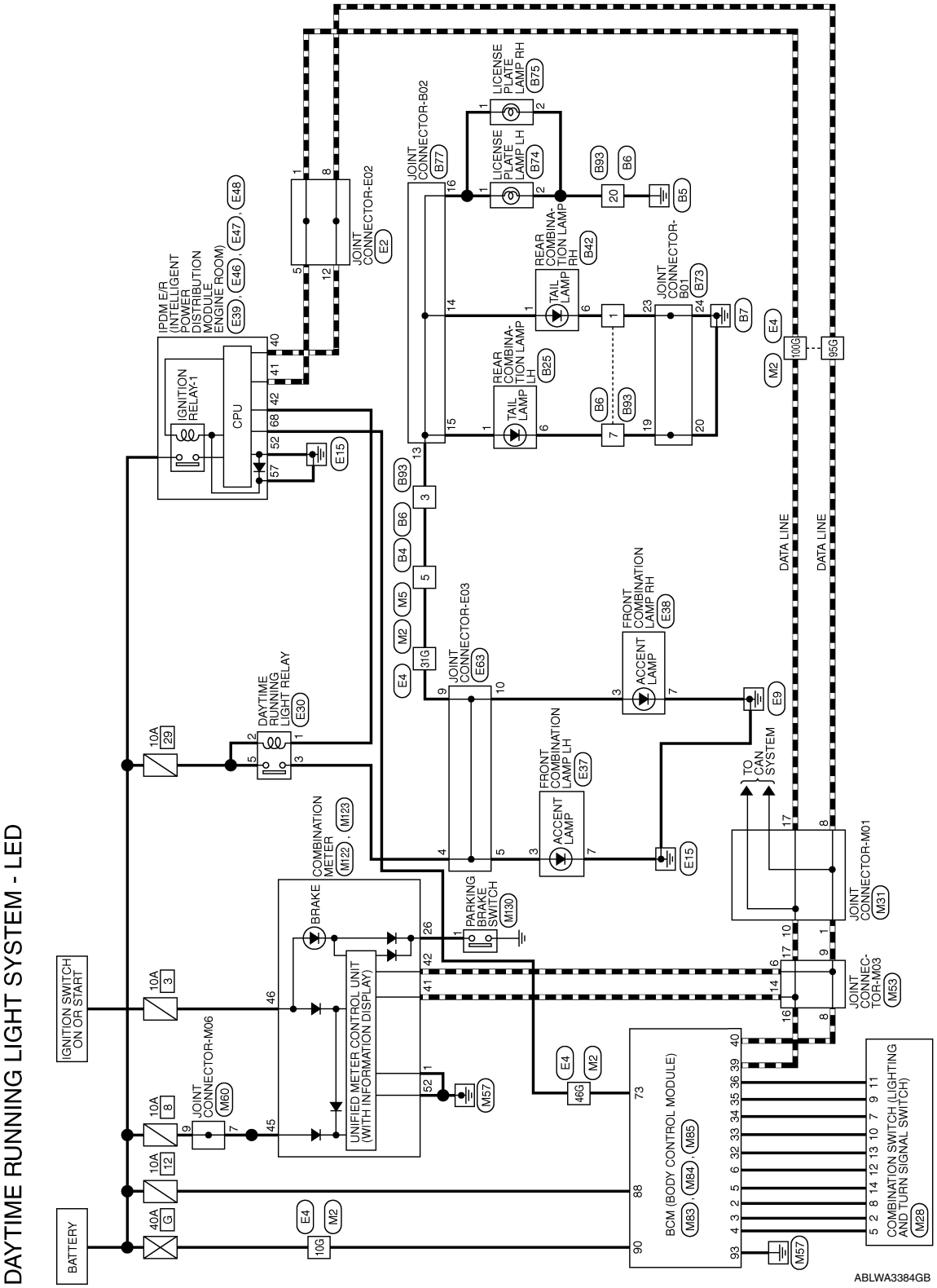
Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation" (with Intelligent Key system) or PCS-60, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the malfunctioning part.

DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram

INFOID:0000000013402488



HEADLAMP (LO) CIRCUIT

Component Function Check

INFOID:0000000013402499

1.CHECK HEADLAMP (LO) OPERATION

With CONSULT
1. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R”.
2. While operating the test items, check that the headlamp (LO) is turned ON.

Lo : Headlamp (LO) ON
Off : Headlamp (LO) OFF

Without CONSULT
1. Start IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
2. Check that the headlamp (LO) is turned ON.

Is the inspection result normal?

YES >> Headlamp (LO) circuit is normal.
NO >> Refer to EXL-224, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013402500

Regarding Wiring Diagram information, refer to EXL-167, "Wiring Diagram".

1.CHECK HEADLAMP (LO) FUSE

1. Turn ignition switch OFF.
2. Check that the following fuses are not blown:

Unit	Location	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	43	15A
Headlamp LO (LH)		44	

Is the inspection result normal?

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

2.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

With CONSULT
1. Disconnect applicable front combination lamp connector.
2. Turn ignition switch ON.
3. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R”.
4. While operating the test items, check voltage between applicable front combination lamp harness connector and ground.

(+)			(-)	Test item		Voltage (Approx.)
Front combination lamp						
Connector		Terminal				
RH	E38	1	Ground	EXTERNAL LAMPS	Lo	Battery voltage
					Off	0
LH	E37				Lo	Battery voltage
					Off	0

Is the inspection result normal?

YES >> Perform the LED headlamp diagnosis. Refer to EXL-228, "Diagnosis Procedure".
NO >> GO TO 3.

SECTION EXT
EXTERIOR

CONTENTS

PERIODIC MAINTENANCE

FRONT WHEEL HUB AND KNUCKLE

Inspection

INFOID:0000000012787679

COMPONENT PART

Check that the mounting conditions (looseness, backlash) of each component and component conditions (wear, damage) are normal.

WHEEL HUB ASSEMBLY (BEARING-INTEGRATED TYPE)

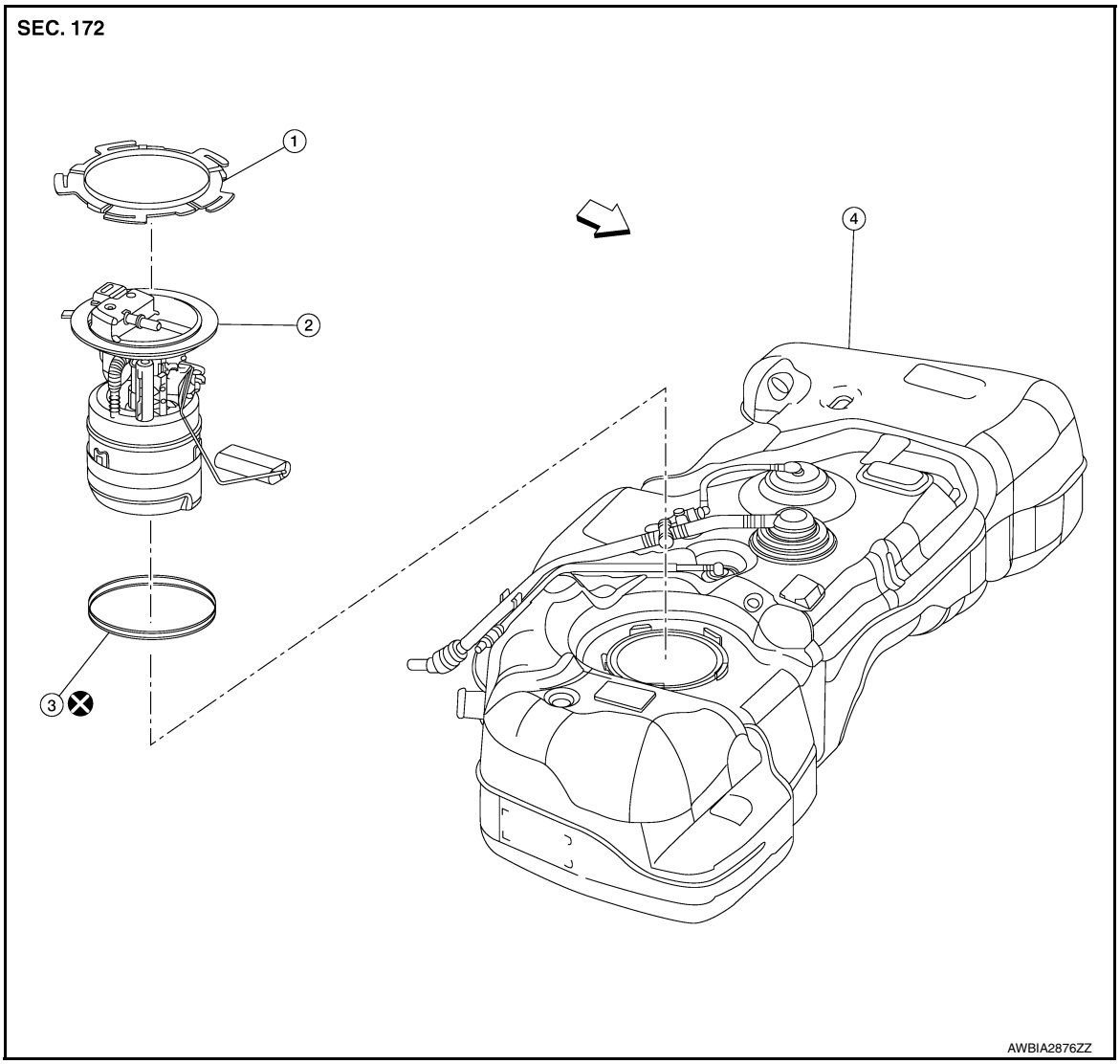
Check the following items, and replace the part if necessary.

- Move the wheel hub and bearing in the axial direction by hand. Make sure there is no looseness in the wheel hub and bearing.

Axial end play : Refer to FAX-49, "Wheel Bearing".

- Rotate the wheel hub and bearing and make sure there is no unusual noise or other irregular conditions. If there are any irregular conditions, replace wheel hub and bearing.

EXCEPT FOR CALIFORNIA



1. Lock ring
2. Fuel level sensor, fuel filter and fuel pump assembly
3. O-ring
4. Fuel tank
⇦ Front

Removal and Installation

INFOID:0000000012788278

WARNING:
Read “General Precautions” when working on the fuel system. Refer to FL-2, "General Precaution".
NOTE:
When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.

REMOVAL

1. Release the fuel pressure from the fuel lines. Refer to EC-147, "Work Procedure".

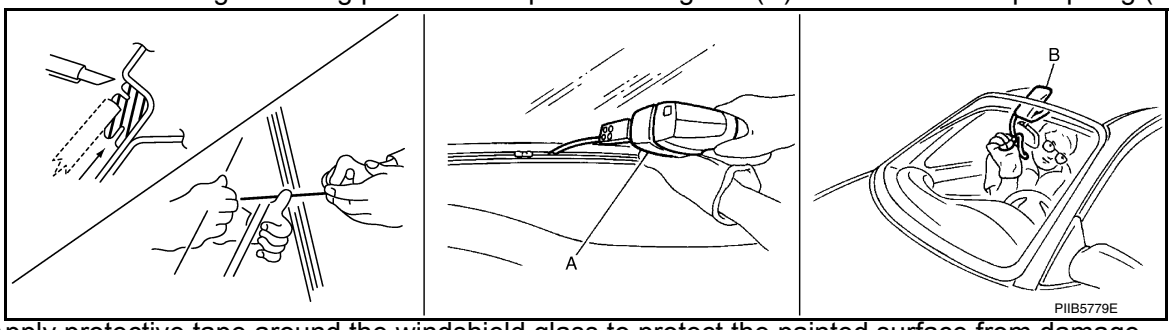
No.	Item	Description
4	Wire color	• This shows a code for the color of the wire.
		B = Black W = White R = Red G = Green L = Blue Y = Yellow LG = Light Green BG or BE = Beige BR = Brown LA = Lavender OR or O = Orange P = Pink PU or V (Violet) = Purple GY or GR = Gray SB = Sky Blue CH = Dark Brown DG = Dark Green
		• When the wire color is striped, the base color is given first followed by the stripe color as shown below: Example: L/W = Blue with White Stripe
5	Connector	• This means the connector information. • This unit-side is described by the connector symbols.

Removal and Installation

INFOID:0000000012783576

REMOVAL

1. Partially remove the headlining (front edge). Refer to INT-40, "Removal and Installation".
2. Remove inside mirror. Refer to MIR-17, "Removal and Installation".
3. Remove the cowl top cover. Refer to EXT-26, "Removal and Installation".
4. Remove windshield glass using piano wire or power cutting tool (A) and an inflatable pump bag (B).



- Apply protective tape around the windshield glass to protect the painted surface from damage.
- If the windshield glass is to be reused, mark the body and the glass with matching marks.
- Minimum adhesive coating amount 8 +3,-0 g/100 mm (0.28 +0.11,-0 oz/3.9 in) all around.

WARNING:

When cutting the glass from the vehicle, always wear safety glasses and heavy gloves to help prevent glass splinters from entering your eyes or cutting your hands.

CAUTION:

- **Be careful not to scratch the glass when removing.**
- **Do not set or stand the glass on its edge. Small chips may develop into cracks.**
- **Apply protective tape around the windshield glass to protect the painted surface from damage.**

INSTALLATION

Installation is in the reverse order of removal.

- If repainting near the windshield flange area, protect the flange adhesion area by masking the flange.
- Use a Genuine NISSAN Urethane Adhesive Kit (if available) or equivalent and follow the instructions furnished with it.
- Adhesive shall be continuously applied to assure watertightness. Glass installation shall be finished within five minutes after applying the adhesive.
- The start and finish of the urethane adhesive application should be located at the bottom to assure watertightness.
- While the urethane adhesive is curing, open a door window. This will prevent the glass from being forced out by passenger compartment air pressure when a door is closed.
- The molding must be installed securely to the windshield glass to avoid looseness and will leave no gap.
- Inform the customer that the vehicle should remain stationary until the urethane adhesive has completely cured (preferably 24 hours). Curing time varies with temperature and humidity.

WARNING:

- **Keep heat and open flames away as primers and adhesive are flammable.**
- **The materials contained in the kit are harmful if swallowed, and may irritate skin and eyes. Avoid contact with the skin and eyes.**
- **Use in an open, well ventilated location. Avoid breathing the vapors. They can be harmful if inhaled. If affected by vapor inhalation, immediately move to an area with fresh air.**
- **Driving the vehicle before the urethane adhesive has completely cured may affect the performance of the windshield in case of an accident.**

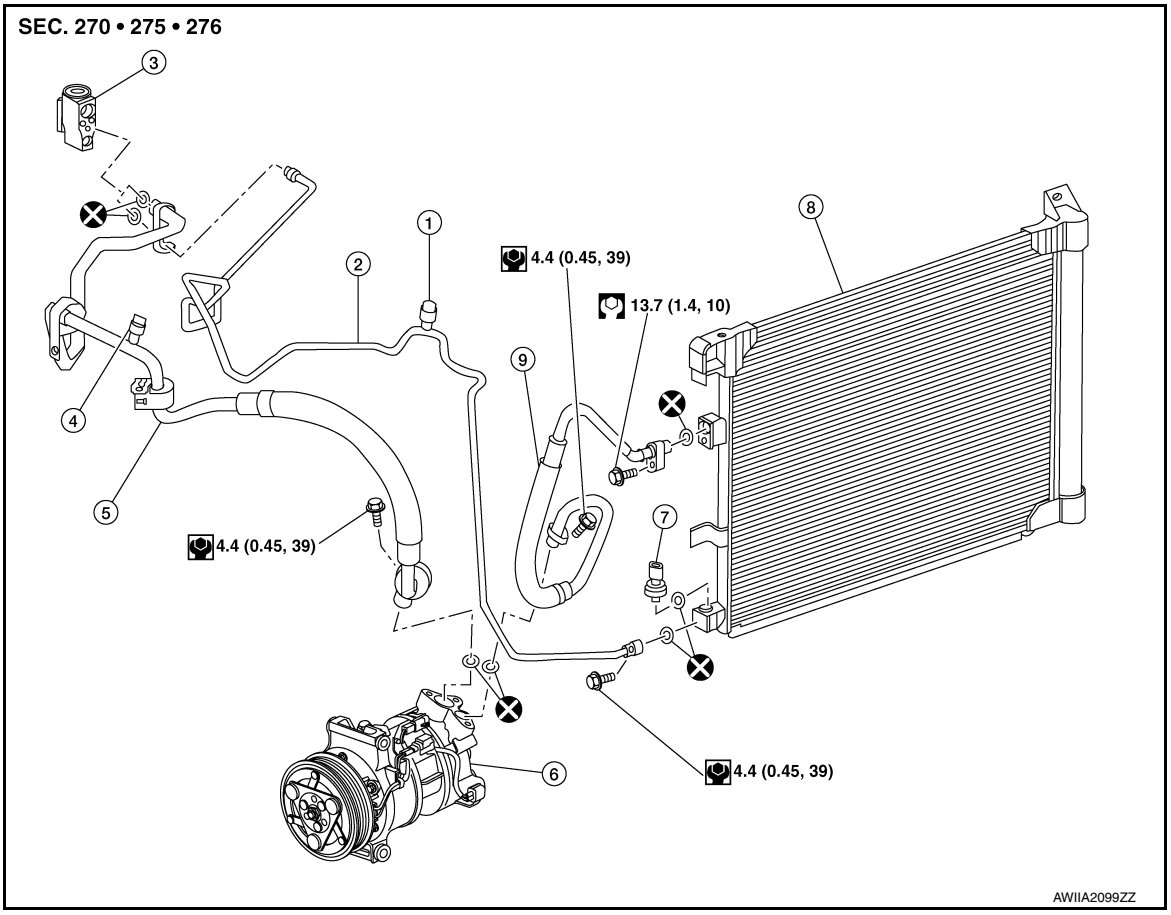
CAUTION:

- **Do not use an adhesive which is past its usable term. Shelf life of this product is limited to six months after the date of manufacture. Carefully adhere to the expiration or manufacture date printed on the box or product.**
- **Keep primers and adhesive in a cool, dry place. Ideally, they should be stored in a refrigerator.**
- **Do not leave primers or adhesive cartridge unattended with their caps open or off.**
- **The vehicle should not be driven for at least 24 hours or until the urethane adhesive has completely cured. Curing time varies depending on temperature and humidity. The curing time will increase under lower temperature and lower humidity.**

COOLER PIPE AND HOSE

Exploded View

INFOID:0000000012786619



1. High-pressure service port
2. High-pressure pipe
3. Expansion valve
4. Low-pressure service port
5. Low-pressure flexible hose
6. Compressor
7. Refrigerant pressure sensor
8. Condenser and liquid tank assembly
9. High-pressure flexible hose

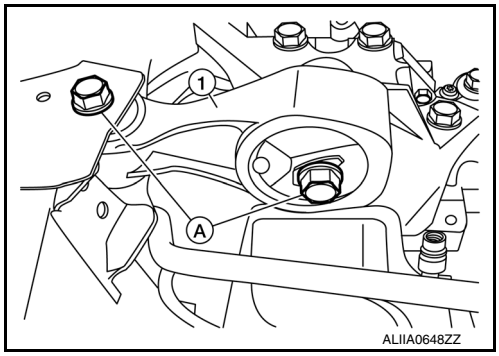
LOW-PRESSURE FLEXIBLE HOSE

LOW-PRESSURE FLEXIBLE HOSE : Removal and Installation

INFOID:0000000012786620

REMOVAL

1. Discharge the refrigerant. Refer to HA-23, "Recycle Refrigerant".
2. Remove the upper torque rod bolts (A) and the upper torque rod (1).



ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:0000000012786659

ECU	Reference
ECM	EC-77, "Reference Value"
	EC-91, "Fail Safe"
	EC-93, "DTC Inspection Priority Chart"
	EC-95, "DTC Index"
IPDM E/R	PCS-13, "Reference Value"
	PCS-19, "Fail-safe"
	PCS-20, "DTC Index"
BCM	BCS-30, "Reference Value"
	BCS-48, "Fail-safe"
	BCS-49, "DTC Inspection Priority Chart"
	BCS-50, "DTC Index"

1. Turn ignition switch OFF.
2. Disconnect blower motor connector.
3. Check continuity between variable blower control harness connector and blower motor harness connector.

Variable blower control		Blower motor		Continuity
Connector	Terminal	Connector	Terminal	
M52	1	M62	2	Existed

Is the inspection result normal?

YES >> Replace blower motor. Refer to VTL-10, "Removal and Installation".
NO >> Repair harness or connector.

6.CHECK A/C AUTO AMP. IGNITION POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect A/C auto amp.
3. Turn ignition switch ON.
4. Check voltage between A/C auto amp. harness connector and ground.

+		–	Voltage
A/C auto amp.			
Connector	Terminal		
M34	21	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair harness or connector between A/C auto amp. and fuse.

7.CHECK VARIABLE BLOWER CONTROL IGNITION POWER SUPPLY

Check voltage between variable blower control harness connector and ground.

+		–	Voltage
Variable blower control			
Connector	Terminal		
M52	4	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair harness or connector between variable blower control and fuse.

8.CHECK VARIABLE BLOWER CONTROL GROUND CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Check continuity between variable blower control harness connector and ground.

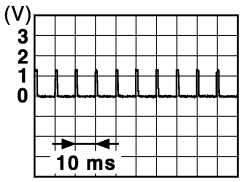
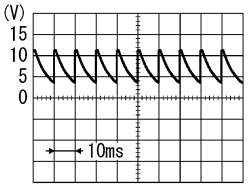
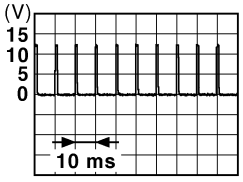
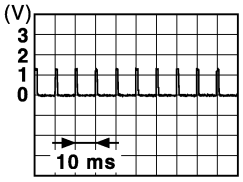
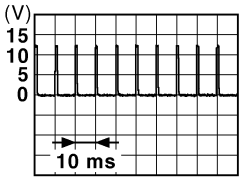
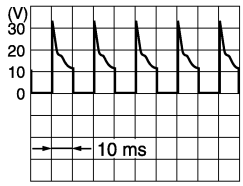
Variable blower control		—	Continuity
Connector	Terminal		
M52	3	Ground	Yes

Is the inspection result normal?

YES >> GO TO 9.
NO >> Repair harness or connector.

9.CHECK VARIABLE BLOWER CONTROL SIGNAL

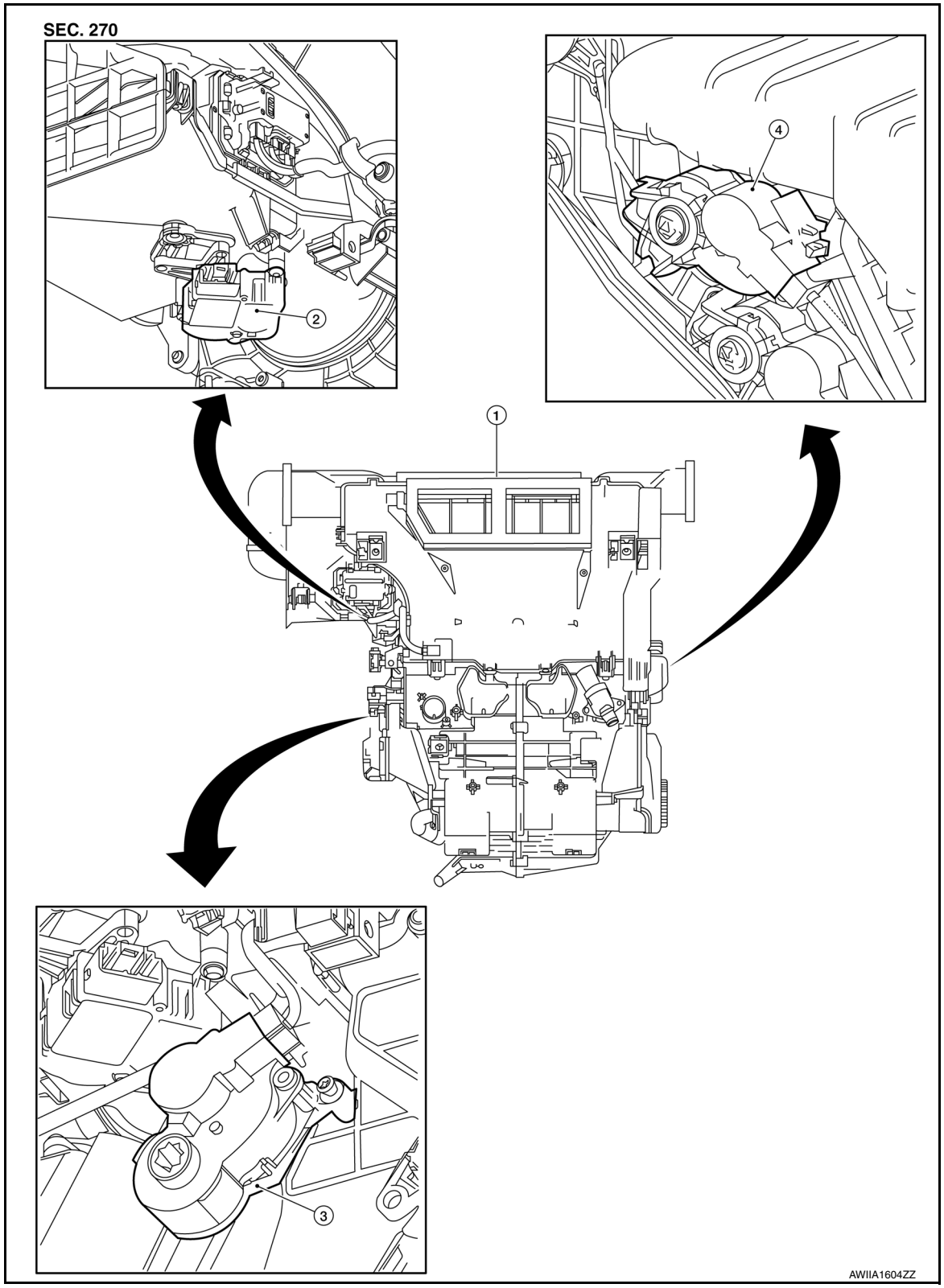
1. Connect variable blower control connector and A/C auto amp. connector.
2. Turn ignition switch ON.
3. Set air outlet to VENT.

Terminal No. (Wire color)		Description		Condition		Value
+	–	Signal name	Input/ Output			
14 (LG)	30 (B)	Blower fan ON signal	Output	• Ignition switch ON • Blower motor: OFF		 JMIIA0941GB
				• Ignition switch ON • Blower motor: ON		 PKIB4960J
15* (Y)	30 (B)	A/C ON signal	Output	• Ignition switch ON • A/C switch: OFF (A/C indicator: OFF)		 JPMIA0012GB
				• Ignition switch ON • A/C switch: ON (A/C indicator: ON)		 JMIIA0941GB
16 (W)	30 (B)	RR DEF signal	Output	Rear window defogger switch	Released	 JPMIA0012GB 1.0 - 1.5 V
					Depressed	0 V
17 (BR)	30 (B)	A/MIX drive 4	Air mix door motor (passenger side) drive signal	Output	• Ignition switch ON • Right after the temperature control switch (passenger side) operation	 JPIIA1647GB
18 (SB)	30 (B)	A/MIX drive 3				
19 (LG)	30 (B)	A/MIX drive 2				
20 (L)	30 (B)	A/MIX drive 1				
21 (W)	30 (B)	Ignition power supply		Input	Ignition switch ON	Battery Voltage

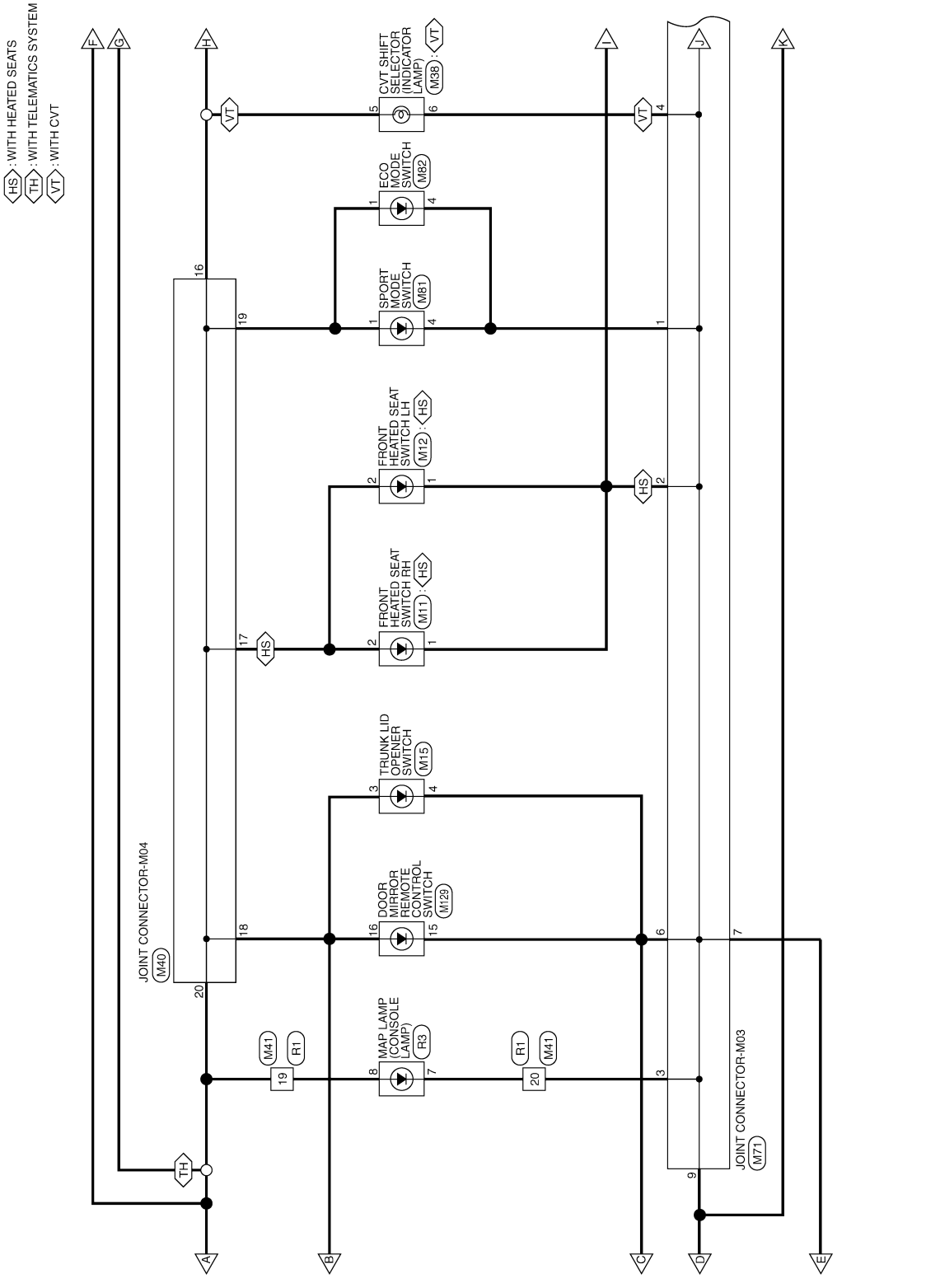
DOOR MOTOR

Exploded View

INFOID:0000000012786800



1. Heating and cooling unit assembly
2. Intake door motor
3. Mode door motor
4. Air mix door motor


HS : WITH HEATED SEATS
TH : WITH TELEMATICS SYSTEM
VT : WITH CVT
CVT SHIFT SELECTOR (INDICATOR LAMP) M38 : VT
ECO MODE SWITCH M82
SPORT MODE SWITCH M81
FRONT HEATED SEAT SWITCH LH M12 : HS
FRONT HEATED SEAT SWITCH RH M11 : HS
TRUNK LID OPENER SWITCH M15
DOOR MIRROR REMOTE CONTROL SWITCH M129
MAP LAMP (CONSOLE LAMP) R3
JOINT CONNECTOR-M04 M40
JOINT CONNECTOR-M03 M71
M41 R1
R1 M41
F G H I J K
A B C D E
AALWA1515GB

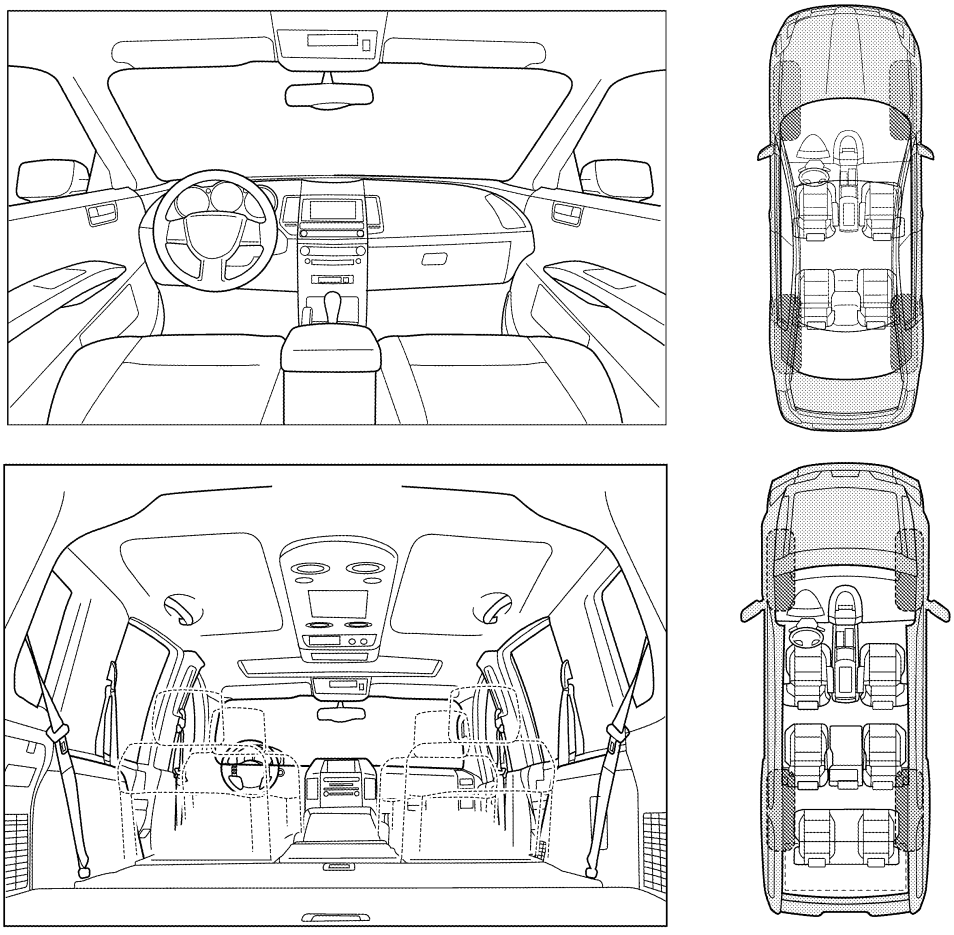
Diagnostic Worksheet

INFOID:0000000012783808

Dear Customer:
We are concerned about your satisfaction with your vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your vehicle right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service advisor or technician to ensure we confirm the noise you are hearing.

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)
The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



Continue to page 2 of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

LAIA0072E

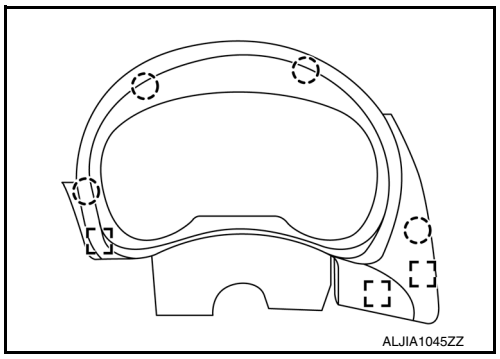
CLUSTER LID A

Removal and Installation

INFOID:0000000012783847

REMOVAL

1. Release cluster lid A clips and pawls using a suitable tool.
   ◌: Pawl
   ⬚: Metal clip



2. Remove cluster lid A.

INSTALLATION

Installation is in the reverse order of removal.

Malfunction area	Reference
ITS communication circuit	LAN-69, "Diagnosis Procedure"

Inspection result

Reproduced>>GO TO 6.
Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.
   NOTE:
   ECM and BCM have a termination circuit. Check other units first.
4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.
   NOTE:
   Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.
Non-reproduced>>Replace the unit whose connector was disconnected.

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013390062

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-23, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the EPS control unit. Refer to STC-40, "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.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013390130

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.

- With type A

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

- With type B

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M123	41	42	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 the following.

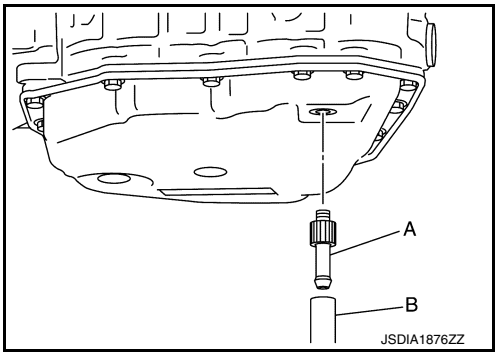
- With type A: MWI-51, "COMBINATION METER : Diagnosis Procedure"
- With type B: MWI-126, "COMBINATION METER : Diagnosis Procedure"

NOTE:
Check the vehicle type confirm the service information. Refer to MWI-5, "Information".

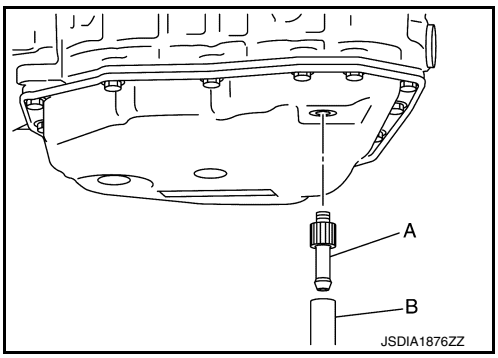
Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-74, "Removal and Installation".
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

1. Select “Data Monitor” in “TRANSMISSION” using CONSULT.
2. Select “FLUID TEMP” and confirm that the CVT fluid temperature is 40°C (104°F) or less.
3. Check that the selector lever is in the “P” position, then completely engage the parking brake.
4. Lift up the vehicle.
5. Remove the drain plug and overflow tube and drain the CVT fluid from the oil pan. Refer to TM-272, "Exploded View".
6. Install the charging pipe set (KV311039S0) (A) into the drain hole.
   CAUTION:
   Tighten the charging pipe by hand.
7. Install the ATF changer hose (B) to the charging pipe.
   CAUTION:
   Press the ATF changer hose all the way onto the charging pipe until it stops.
8. Fill approximately 3 liter (2-5/8 lmp qt) of the CVT fluid.
9. Remove the ATF changer hose and charging pipe, then install the drain plug.
   NOTE:
   Perform this work quickly because CVT fluid leaks.



10. Lift down the vehicle.
11. Start the engine.
12. While depressing the brake pedal, shift the selector lever to the entire position from “P” to “L”, and shift it to the “P” position.
    NOTE:
    Hold the lever at each position for 5 seconds.
13. Check that the CONSULT “Data monitor” in “FLUID TEMP” is 35°C (95°F) to 45°C (113°F).
14. Stop the engine.
15. Lift up the vehicle.
16. Remove the drain plug, and then drain CVT fluid from oil pan.
17. Repeat steps 6 to 16 (one time).
18. Install the overflow tube. Refer to TM-272, "Exploded View".
    CAUTION:
    Be sure to tighten to the specified torque. If it is not tightened to the specified torque, the tube may be damaged.
19. Install the charging pipe set (KV311039S0) (A) into the drain hole.
    CAUTION:
    Tighten the charging pipe by hand.
20. Install the ATF changer hose (B) to the charging pipe.
    CAUTION:
    Press the ATF changer hose all the way onto the charging pipe until it stops.
21. Fill approximately 3 liter (2-5/8 lmp qt) of the CVT fluid.
22. Remove the ATF changer hose and charging pipe, then install the drain plug.
    NOTE:
    Perform this work quickly because CVT fluid leaks.



23. Lift down the vehicle.
24. Start the engine.
25. While depressing the brake pedal, shift the selector lever to the entire position from “P” to “L”, and shift it to the “P” position.
    NOTE:
    Hold the lever at each position for 5 seconds.
26. Check that the CONSULT “Data monitor” in “FLUID TEMP” is 35°C (95°F) to 45°C (113°F).

DIAGNOSIS SYSTEM (COMBINATION METER)

Description

INFOID:0000000012782048

COMBINATION METER SELF-DIAGNOSIS MODE

The information display, speedometer and tachometer can be checked in self-diagnosis mode.

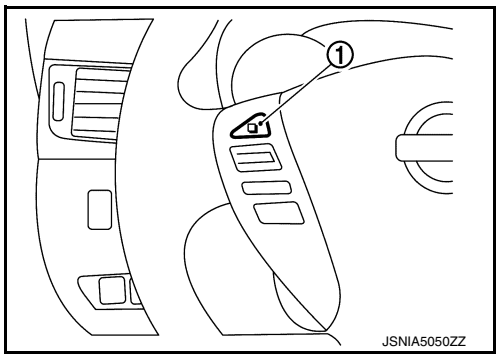
STARTING COMBINATION METER SELF-DIAGNOSIS MODE

NOTE:

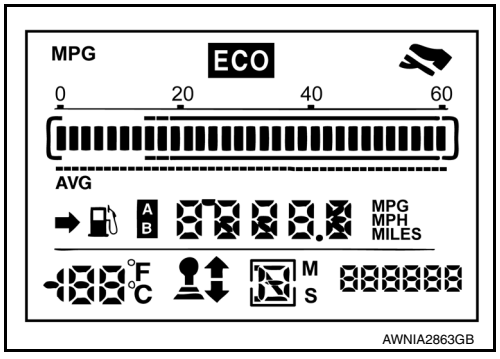
- Check combination meter power supply and ground circuits if self-diagnosis mode does not start. Refer to MWI-51, "COMBINATION METER : Diagnosis Procedure". Replace combination meter if power supply and ground circuits are found to be normal and self-diagnosis mode does not start. Refer to MWI-74, "Removal and Installation".
- Combination meter self-diagnosis mode will function with the ignition switch in ON. Combination meter self-diagnosis mode will exit upon turning the ignition switch to OFF.

How to Initiate Self-Diagnosis Mode

1. Turn ignition switch OFF.
2. While pressing the steering switch ①, turn ignition switch ON.
3. If the diagnosis function is activated with “trip A” displayed, the mileage on “trip A” is reset to “0000.0”. (The same way for “trip B”.)



4. Make sure that the trip meter displays “0000.0”.
5. Press the steering switch ① at least 3 times. (Within 7 seconds after the ignition switch is turned ON.)
6. The combination meter is turned to self-diagnosis mode.
   - Speedometer, tachometer, engine coolant temperature gauge, fuel gauge, and return to zero, simultaneously.
   - All segments of the information display are displayed.



NOTE:

- Check the following items when the self-diagnosis mode of the combination meter does not start. Replace combination meter if the following items are normal.
- Combination meter power supply and ground circuit.
- Steering switch signal circuit and steering switch.
- If any of the dots are not displayed, replace combination meter.

THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON

Description

INFOID:0000000012782099

The oil pressure warning lamp stays off when the ignition switch is turned ON.

Diagnosis Procedure

INFOID:0000000012782100

1.CHECK COMBINATION METER OIL PRESSURE WARNING LIGHT

1. Select METER/M&A on CONSULT.
2. Observe OIL W/L DATA MONITOR while operating the ignition switch.

Component	Condition	CONSULT
Oil pressure warning light	Ignition ON	ON
	Ignition OFF	OFF

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace combination meter. Refer to MWI-74, "Removal and Installation".

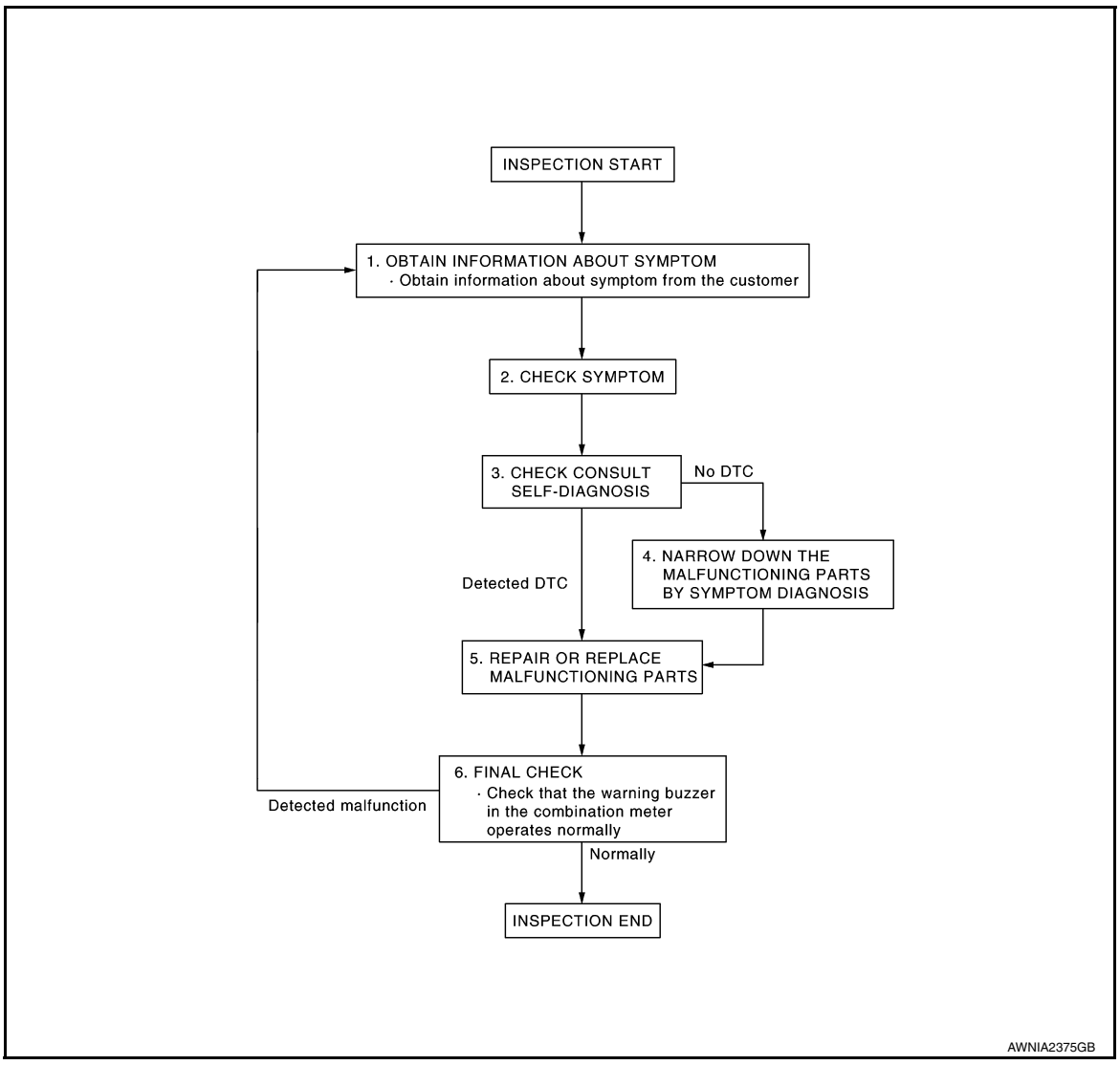
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work flow

INFOID:0000000013363316

OVERALL SEQUENCE



DETAILED FLOW

1.OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurred.

>> GO TO 2.

2.CHECK SYMPTOM

- Check the symptom based on the information obtained from the customer.
- Check if any other malfunctions are present.

>> GO TO 3.

3.CHECK CONSULT SELF-DIAGNOSIS RESULTS

Connect CONSULT and perform self-diagnosis. Refer to MWI-100, "DTC Index".

PRECAUTION

PRECAUTIONS

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

INFOID:0000000013466962

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery or batteries, and wait at least three minutes before performing any service.**

Terminal No.	Color of Wire	Signal Name
58	L	M/FAN 3
59	–	–
60	–	–
61	–	–
62	R	RR DEF

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
57	B/Y	POWER GND

ABMIA8222GB

Terminal No.	Signal name	Fusible link Nos.
1	Battery	B (100A)
2		A (140A), E (100A)
24		A (140A), D (100A), J (40A)

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.

D3	E10	BR/2	: Fusible link box (Battery)	F2	E48	B/6	: IPDM E/R (Intelligent power distribution module engine room)
D2	E11	GR/2	: Fusible link box (Battery)	G3	E50	B/2	: Front combination lamp LH
G2	E15	—	: Body ground	B4	E51	B/2	: Front combination lamp RH
E2	E16	GR/32	: ECM	A3	E52	GR/2	: Front wheel sensor RH
C4	E20	B/8	: Front combination lamp RH	D3	E53	GR/4	: Cooling fan motor
G3	E21	B/8	: Front combination lamp LH	E4	E57	B/1	: Horn (Low)
E4	E23	Y/2	: Crash zone sensor	C4	E58	BR/1	: Horn (High)
G4	E27	B/2	: Front fog lamp LH	G1	E61	GR/2	: Front wheel sensor LH
B5	E28	B/2	: Front fog lamp RH	F1	E62	B/24	: Joint connector-E04
C3	E30	L/4	: Daytime running light relay	F1	E63	B/10	: Joint connector-E03
C2	E33	B/38	: ABS actuator and electric unit (Control unit) (Without intelligent cruise control)	G2	E64	B/48	: To F50
D5	E35	B/3	: Refrigerant pressure sensor	B5	E65	BR/2	: Washer fluid level switch
G3	E37	B/8	: Front combination lamp LH	E5	E67	B/2	: Ambient sensor
D4	E38	B/8	: Front combination lamp RH	E4	E68	B/1	: Horn (Low)
F3	E39	B/10	: IPDM E/R (Intelligent power distribution module engine room)	D4	E69	B/1	: Horn (High)
E2	E40	B/2	: Brake fluid level switch	B4	E70	BR/3	: Intelligent Key warning buzzer
E2	E42	B/2	: IPDM E/R (Intelligent power distribution module engine room)	C3	E75	L/4	: ICC brake hold relay
F2	E43	W/16	: IPDM E/R (Intelligent power distribution module engine room)	F5	E76	B/8	: ICC sensor
G2	E44	W/6	: IPDM E/R (Intelligent power distribution module engine room)				

Connector No.	B28
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
3	R	–

Connector No.	B31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1
10	9	8	7	6	5

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

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

H.S.

49	48	47	46	45	44	43	42	41
55	54	53	52	51	50

Terminal No.	Color of Wire	Signal Name
45	R	DOOR SW (AS)
46	Y	DOOR SW (DR)

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

46C	45C	44C	43C	42C	41C	40C	39C	38C	37C	36C
55C	54C	53C	52C	51C	50C	49C	48C	47C

26C	25C	24C	23C	22C	21C	20C	19C	18C	17C	16C
35C	34C	33C	32C	31C	30C	29C	28C	27C

Terminal No.	Color of Wire	Signal Name
7C	G	–
8C	Y	–
9C	LG	–
10C	P	–
11C	V	–
12C	GR	–
13C	B	–
14C	SB	–
15C	R	–

Connector No.	D5
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	GND
2	GR	MOTOR DN AS
4	P	ENCODER SIG 2
5	W	ENCODER SIG 1
6	P	MOTOR DN RR
7	LG	MOTOR UP RR
8	Y	MOTOR DN RL
9	G	MOTOR UP RL
10	SB	IGN
12	LG	ENCODER GND
14	G	ENCODER+
16	V	MOTOR UP AS

Connector No.	D8
Connector Name	FRONT POWER WINDOW MOTOR LH
Connector Color	GREEN

H.S.

3	2	1
6	5	4

Terminal No.	Color of Wire	Signal Name
1	O	–
2	G	–
3	GR	–
4	W	–
5	P	–
6	LG	–

AAKIA3347GB

PRECAUTION

PRECAUTIONS

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

INFOID:0000000012782401

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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.**

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

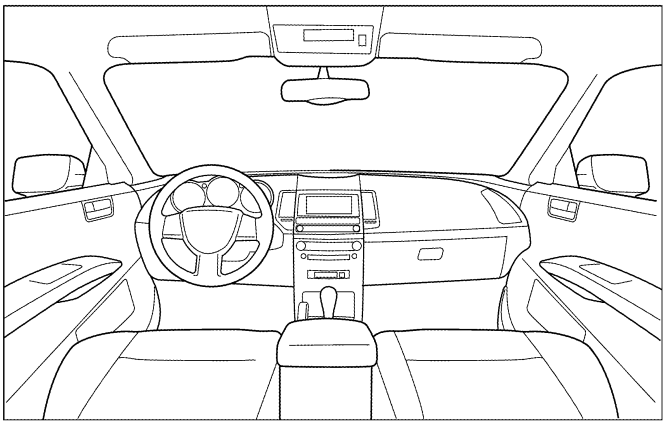
Diagnostic Worksheet

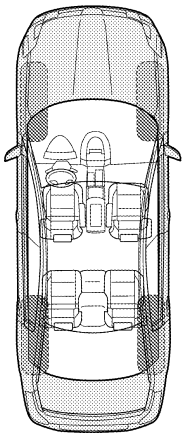
INFOID:0000000012783714

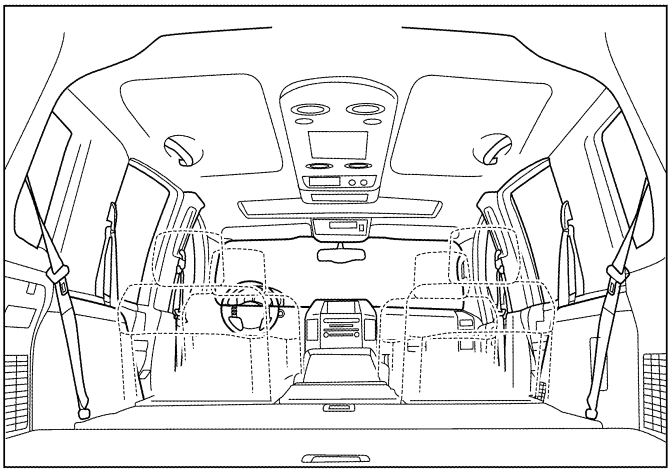
Dear Customer:
We are concerned about your satisfaction with your vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your vehicle right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service advisor or technician to ensure we confirm the noise you are hearing.

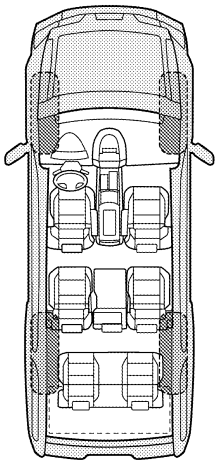
SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)
The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



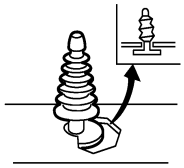
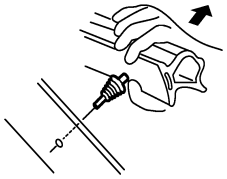
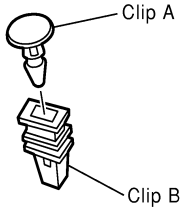
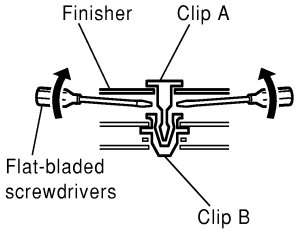
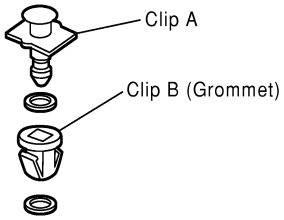
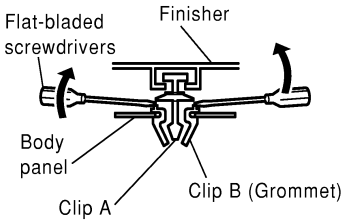
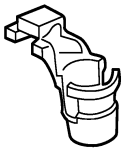
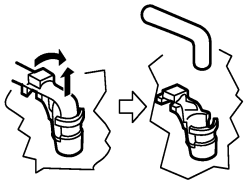
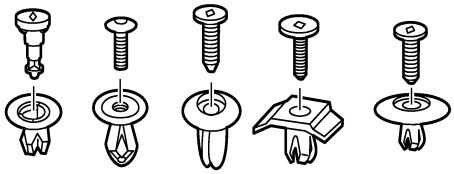






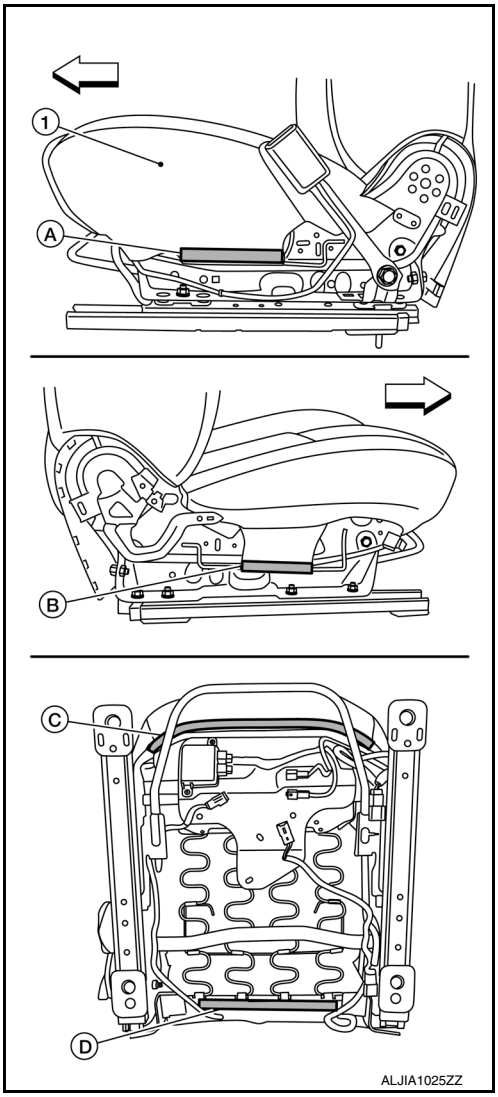
Continue to page 2 of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

LAIA0072E

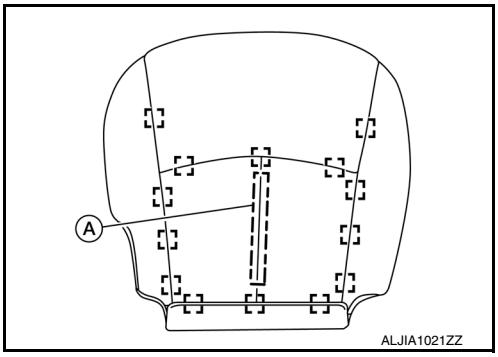
Symbol No.	Shapes	Removal & Installation
CE103 		**Removal:** 
CF110 		**Removal:** 
CF118 		**Removal:** 
CR103		**Removal:** Holder portion of clip must be spread out to remove rod. 
CS101 		**Removal:** 1. Screw out with a Phillips screwdriver. 2. Remove female portion with flat-bladed screwdriver. 

SIIA0316E

4. Remove the seat cushion trim (1) and seat cushion pad as an assembly.
   ⇦: Front
   a. Release J-clip retainer (A) from the seat frame assembly.
   b. Release J-clip retainer (B) from the seat frame assembly.
   c. Release J-clip retainer (D) from the seat frame assembly.
   d. Release retainer strip (C) from the seat frame assembly.
   e. Disconnect the harness connector from the seat cushion heater (if equipped).
   NOTE:
   Take note of harness routing and attachment location for accurate installation.
   f. Remove the seat cushion trim and seat cushion pad as an assembly from the seat frame assembly.



5. Remove the hog rings, release the hook fastener (A) and separate the seat cushion trim from the seat cushion pad.
   ⬚: Hog ring
   NOTE:
   Remove all pieces of hog rings and discard them.



Assembly
Assembly is in the reverse order of disassembly.

CAUTION:
- **Smooth out all wrinkles during assembly.**
- **Always route seat harness in original location. Replace any deformed or damaged clips with same type and color. Always install clips in the original location in the harness.**
- **After work is completed, check that no system malfunction is detected causing the air bag warning lamp to illuminate.**
- **If a malfunction is detected by the air bag warning lamp after repair or replacement of the malfunction parts, perform the SRS final check. Refer to SRC-17, "SRS Final Check".**

NVIS CONNECTORS - WITH INTELLIGENT KEY SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1G	2G	3G	4G	5G
6G	7G	8G	9G	10G

11G	12G	13G	14G	15G	16G	17G	18G	19G	20G	21G
22G	23G	24G	25G	26G	27G	28G	29G	30G		

31G	32G	33G	34G	35G	36G	37G	38G	39G	40G	41G
42G	43G	44G	45G	46G	47G	48G	49G	50G		

51G	52G	53G	54G	55G	56G	57G	58G	59G	60G	61G
62G	63G	64G	65G	66G	67G	68G	69G	70G		

71G	72G	73G	74G	75G	76G	77G	78G	79G	80G	81G
82G	83G	84G	85G	86G	87G	88G	89G	90G		

91G	92G	93G	94G	95G
96G	97G	98G	99G	100G

Terminal No.	Color of Wire	Signal Name
4G	GR	–
6G	BG	–
10G	Y	–
32G	R	–
34G	V	–
37G	L	–
39G	P	–
43G	LG	–
46G	V	–
47G	SB	–
48G	G	–
95G	P	–
97G	V	–
100G	L	–

Connector No.	M25
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Color	WHITE

H.S.

4	3	2	1
5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	SB	–
4	B	–
7	V	–
8	LG	–

Connector No.	M39
Connector Name	DONGLE UNIT
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	SB	–
4	B	–

Connector No.	M38
Connector Name	CVT SHIFT SELECTOR
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
12	SB	–
13	P	–

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	P	–
8	P	–
10	L	–
17	L	–

ABKIA7295GB

YES >> GO TO 7.
NO >> Repair or replace harness.

7.CHECK TRANSMISSION RANGE SWITCH

Refer to SEC-92, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 8.
NO >> Replace transmission range switch.

8.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> Inspection End.

9.REPLACE BCM

1. Replace BCM. Refer to BCS-78, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

Component Inspection

INFOID:0000000012783456

1.CHECK TRANSMISSION RANGE SWITCH

1. Turn ignition switch OFF.
2. Disconnect transmission range switch connector.
3. Check continuity between transmission range switch terminals.

Transmission range switch		Condition	Continuity
Terminal			
7	10	P or N position	Yes
		Other than above	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace transmission range switch.

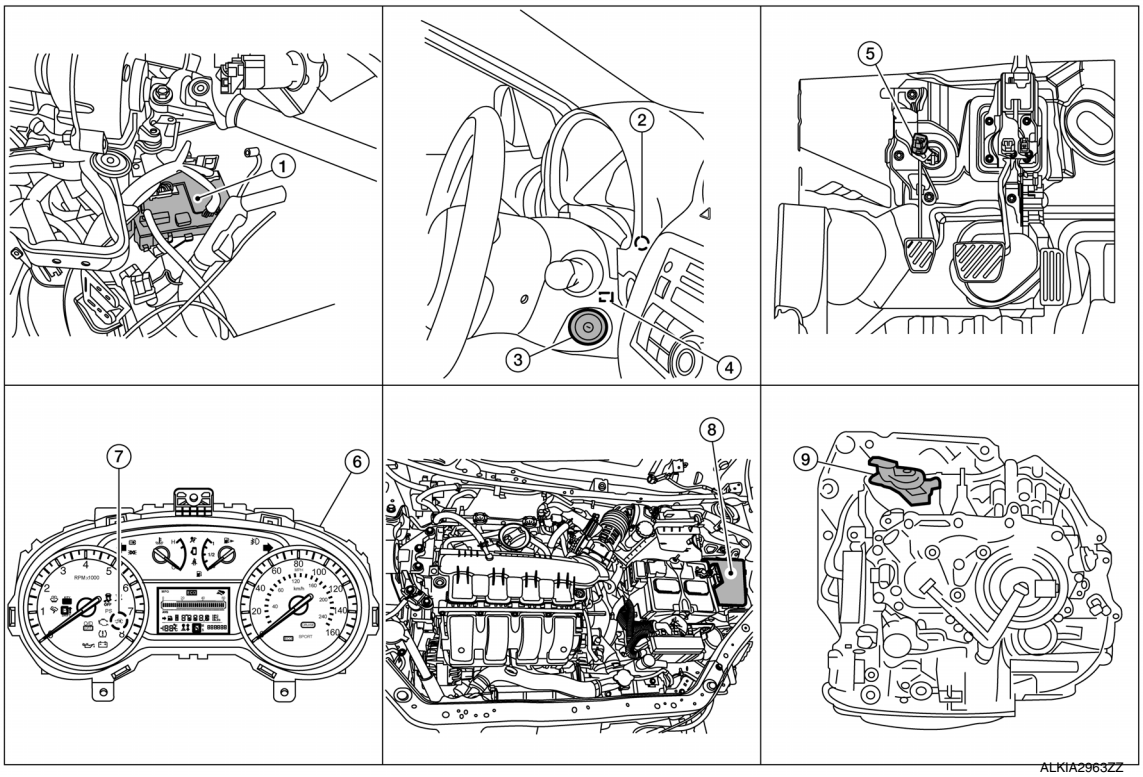
SYSTEM DESCRIPTION

COMPONENT PARTS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Parts Location

INFOID:0000000012783515



1. BCM (view with instrument panel removed)
2. Dongle unit (Canada only) (behind instrument panel LH)
3. Ignition switch
4. NATS antenna amp. (inside steering column)
5. Clutch interlock switch (M/T models)
6. Combination meter
7. Security indicator lamp
8. IPDM E/R
9. Transmission range switch (CVT models)

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Description

INFOID:0000000012783516

Item	Function
BCM	Verifies the received signal from the ignition key ID, then informs ECM whether to allow engine start.
Transmission range switch (CVT models)	Detects whether the shift lever is in park.
Clutch interlock switch (M/T models)	Detects whether the clutch pedal is depressed.
Dongle unit (Canada only)	Sends ID verification signal to the BCM.
Starter relay	Supplies battery voltage to the starter motor when enabled.
NATS antenna amp.	Detects the ignition key presence in the ignition key cylinder.
Security indicator	Indicates the status of the security system.
IPDM E/R	Supplies battery voltage from integrated starter control relay to the starter motor.

VEHICLE SECURITY INDICATOR

Description

INFOID:0000000012783561

- Vehicle security indicator is built in combination meter.
- NATS (Nissan Anti-Theft System) condition is indicated by blink or illumination of vehicle security indicator.

Component Function Check

INFOID:0000000012783562

1.CHECK FUNCTION

1. Perform Active Test of THEFT IND in the IMMU mode with CONSULT.
2. Check vehicle security indicator operation.

Test item		Description	
THEFT IND	ON	Vehicle security indicator	ON
	OFF		OFF

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to SEC-194, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012783563

Regarding Wiring Diagram information, refer to SEC-157, "Wiring Diagram".

1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (V)
Combination meter			
Connector	Terminal		
M24	27	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.
NO-1 >> Check 10 A fuse [No. 8, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between combination meter and fuse.

2.CHECK SECURITY INDICATOR LAMP SIGNAL

1. Connect combination meter connector.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (V)
BCM			
Connector	Terminal		
M21	23	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-135, "Removal and Installation".
NO >> GO TO 3.

3.CHECK SECURITY INDICATOR LAMP CIRCUIT

1. Disconnect combination meter connector.

1. Replace air bag diagnosis sensor unit. Refer to SR-30, "Removal and Installation".
2. Perform DTC confirmation procedure. Refer to SRC-45, "DTC Description".

Is DTC detected?

YES >> GO TO 1.
NO >> Inspection End.

B00D5 FRONT PASSENGER AIR BAG OFF INDICATOR

Description

INFOID:0000000012786937

DTC B00D5 FRONT PASSENGER AIR BAG OFF INDICATOR

The front passenger air bag off indicator is wired to the air bag diagnosis sensor unit. The air bag diagnosis sensor unit monitors the front passenger air bag off indicator and circuit for failures.

PART LOCATION

Refer to SRC-5, "Component Parts Location".

DTC Description

INFOID:0000000012786938

DTC DETECTION LOGIC

DTC	CONSULT screen items (Trouble diagnosis content)		DTC detecting condition
B00D5–04	PASS A/B INDCTR CKT [Restraint System Passenger Disable Indicator (Subfault)]	[UNIT MALFUNC]	Malfunction in front passenger air bag OFF indicator circuit
B00D5–11		[GND-SHORT]	Front passenger air bag OFF indicator circuit is shorted to ground
B00D5–12		[VB-SHORT]	Front passenger air bag OFF indicator circuit is shorted to power supply circuit
B00D5–13		[OPEN]	Front passenger air bag OFF indicator circuit is open
B00D5–15		[PWE-SHORT/OPEN]	Front passenger air bag OFF indicator circuit is open or shorted to power supply circuit

POSSIBLE CAUSE

[B00D5–04]
- Internal malfunction of front passenger air bag OFF indicator
- Internal malfunction of air bag diagnosis sensor unit

[B00D5–11]
- Connection malfunction or short circuit to ground of harness and connector
- Internal malfunction of front passenger air bag OFF indicator
- Internal malfunction of air bag diagnosis sensor unit

[B00D5–12]
- Connection malfunction or short circuit to power supply of harness and connector
- Internal malfunction of front passenger air bag OFF indicator
- Internal malfunction of air bag diagnosis sensor unit

[B00D5–13]
- Connection malfunction or open circuit of harness and connector
- Internal malfunction of front passenger air bag OFF indicator
- Internal malfunction of air bag diagnosis sensor unit

[B00D5–15]
- Connection malfunction or short circuit to power supply of harness and connector
- Connection malfunction or open circuit of harness and connector
- Internal malfunction of front passenger air bag OFF indicator
- Internal malfunction of air bag diagnosis sensor unit

FAIL-SAFE

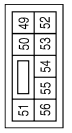
—

DTC CONFIRMATION PROCEDURE (With CONSULT)

1.CHECK SELF-DIAG RESULT

1. Turn ignition switch ON.
2. Check the DTC using CONSULT.

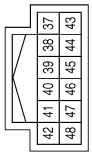
Connector No.	E47
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



H.S.

Terminal No.	Color of Wire	Signal Name
52	B/Y	SIGNAL GND

Connector No.	E46
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



H.S.

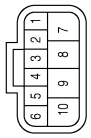
Terminal No.	Color of Wire	Signal Name
37	SB	INHIBIT CUT
44	V	START CONT

Connector No.	E44
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
19	R	STARTER MOTOR
20	P	F/L IGN SW

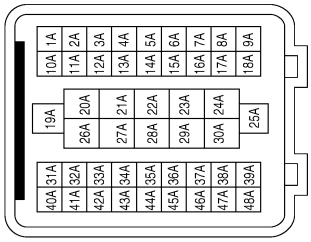
Connector No.	F26
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



H.S.

Terminal No.	Color of Wire	Signal Name
7	GR	–
10	BR	–

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



H.S.

Terminal No.	Color of Wire	Signal Name
25A	R	–
45A	BR	–
48A	LG	–

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
57	B/Y	POWER GND

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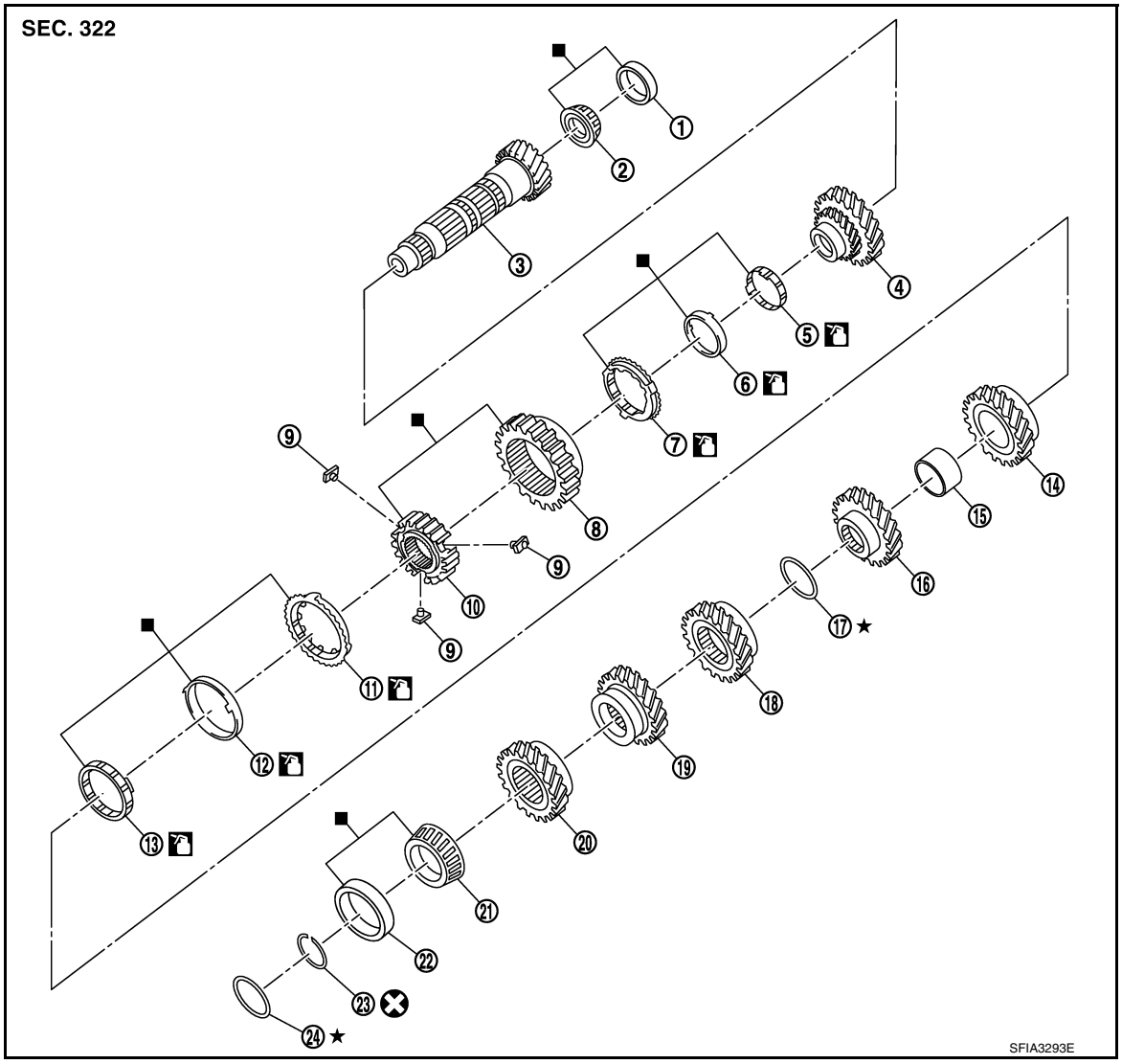


1.	Mainshaft front bearing outer race	2.	Mainshaft front bearing inner race	3.	Mainshaft
4.	1st main gear	5.	1st inner baulk ring	6.	1st synchronizer cone
7.	1st outer baulk ring	8.	1st-2nd coupling sleeve	9.	Insert key
10.	1st-2nd synchronizer hub	11.	2nd outer baulk ring	12.	2nd synchronizer cone
13.	2nd inner baulk ring	14.	2nd main gear	15.	Bushing
16.	3rd main gear	17.	Mainshaft adjusting shim	18.	4th main gear
19.	5th main gear	20.	6th main gear	21.	Mainshaft rear bearing inner race
22.	Mainshaft rear bearing outer race	23.	Snap ring	24.	Mainshaft rear bearing adjusting shim

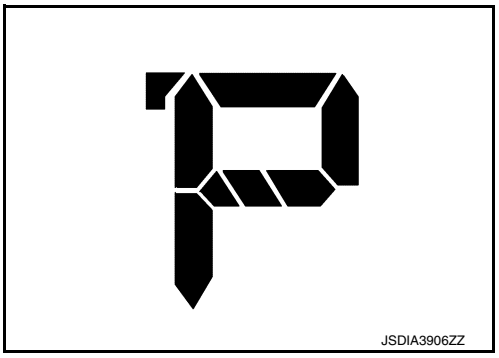
- Ignition switch: Other than ON
- Overdrive control switch is pressed when the OD OFF indicator lamp is ON.
- Selector lever is shifted to other than D position when the OD OFF indicator lamp is ON.

CVT CONTROL SYSTEM : Shift Position Indicator

INFOID:0000000012787446

PURPOSE

The shift position indicator displays the shift position of transaxle.



SIGNAL PATH

- The TCM judges the shift position by the transmission range switch signal.
- The TCM transmits the shift position signal to the combination meter via CAN communication. The combination meter shows the shift position indicator on the information display, according to the signal.

LIGHTING CONDITION

Ignition switch: ON

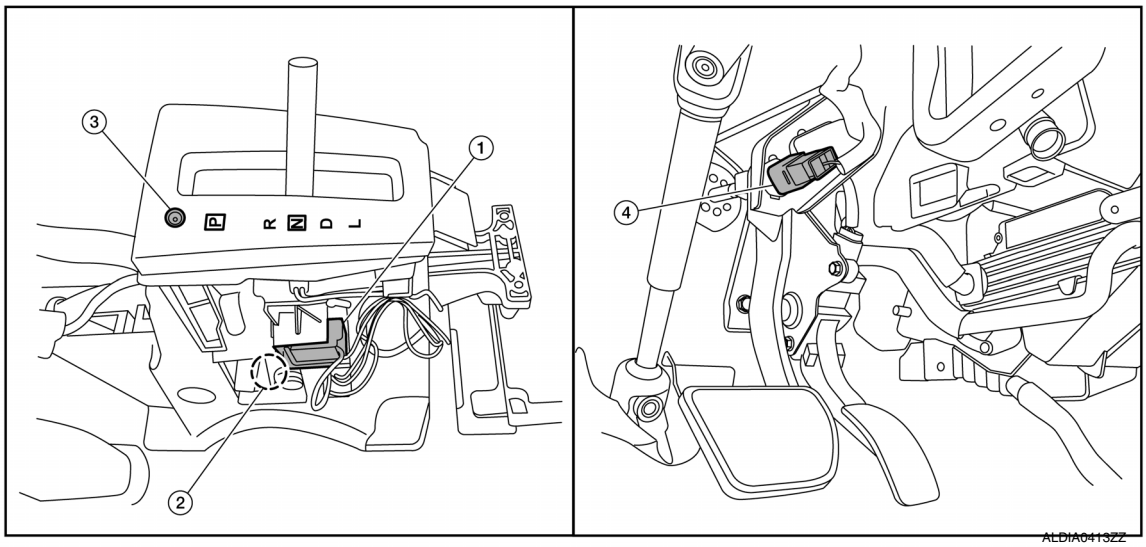
SHUTOFF CONDITION

Ignition switch: Other than ON

SHIFT LOCK SYSTEM

SHIFT LOCK SYSTEM : Component Parts Location

INFOID:0000000012787447



COMPONENT DESCRIPTION

No.	Component	Function
1.	Shift lock solenoid	It operates according to the signal from the stop lamp switch and moves the lock lever.
2.	Park position switch	It detects that the selector lever is in “P” position.

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

H.S.

Terminal No.	Color of Wire	Signal Name
1A	P	–
2A	L	–
3A	O	–
4A	LG	–
5A	O	–
8A	V	–
10A	R	–
11A	O	–
12A	W	–

Connector No.	F23
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	BR	L RANGE SW
3	–	–
4	W	D RANGE SW
5	LG	N RANGE SW
6	G	R RANGE SW
7	SB	P RANGE SW
8	–	–
9	–	–
10	–	–
11	Y	SENSOR GND
12	SB	CVT FLUID TEMP SENS
13	–	–
14	G	G SENSOR
15	–	–
16	P	ATF PRESS SENS
17	–	–
18	–	–
19	–	–

Terminal No.	Color of Wire	Signal Name
20	–	–
21	O	SEL1 (CHIP SELECT)
22	GR	SEL3 (DATA I/O)
23	P	CAN-L
24	V	OUTPUT SPEED SENS
25	–	–
26	R	SENS PWR SUPPLY
27	–	–
28	–	–
29	–	–
30	Y	LINE PRESS SOL VALVE
31	V	SEL2 (CLOCK)
32	–	–
33	L	CAN-H
34	R	SEC SPEED SENS
35	O	PRI SPEED SENS
36	–	–
37	L	SELECT SOL VALVE
38	LG	TCC SOL VALVE
39	G	LOW BRAKE SOL VALVE
40	W	PRI PRESS SOL VALVE
41	B	GND
42	B	GND
43	–	–
44	–	–
45	V	BATT
46	GR	BATT
47	LG	VIGN
48	W	VIGN

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P0720 OUTPUT SPEED SENSOR

DTC Logic

INFOID:0000000012787532

DTC DETECTION LOGIC

DTC	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	Possible causes
P0720	OUTPUT SPEED SENSOR (Output Speed Sensor Circuit)	The output speed sensor value is less than 150 rpm continuously for 5 seconds or more under the following diagnosis conditions: • Diagnosis conditions - Selector lever: “D”, “L” or “R” position - Auxiliary gearbox shifting is not in progress. - When the “D” position switch, “L” position switch or “R” position switch is ON, the output speed has not experienced 250 rpm or more. - After shifting the selector lever, the input speed has experienced less than 300 rpm. - Secondary pulley speed: 1,500 rpm or more - TCM power supply voltage: More than 11 V	• Harness or connector (Output speed sensor circuit is open or shorted) • Output speed sensor
		The output speed sensor value is 90 rpm or less continuously for 500 msec or more under the following diagnosis conditions: • Diagnosis conditions - 10-msec-ago output speed: 730 rpm or more - TCM power supply voltage: More than 11 V	

DTC CONFIRMATION PROCEDURE

CAUTION:

Be careful of the driving speed.

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.CHECK DTC DETECTION

1. Start the engine.
2. Drive the vehicle.
3. Maintain the following conditions for 10 seconds or more.

Selector lever	: “D” position
Vehicle speed	: 55 km/h (34 MPH) or more

4. Stop the vehicle.
5. Check the first trip DTC.

Is “P0720” detected?

YES >> Go to TM-185, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000012787533

1.CHECK OUTPUT SPEED SENSOR POWER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect output speed sensor connector.
3. Turn ignition switch ON.

P285A CLUTCH B PRESSURE

DTC Logic

INFOID:0000000012787594

DTC DETECTION LOGIC

DTC	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	Possible causes
P285A	CLUTCH B PRESSURE (Clutch B Pressure Disengagement Performance)	The detection conditions continuously for 200 msec or more under the following diagnosis conditions: • Diagnosis conditions - Selector lever: Other than “P”, “R” and “N” positions - Vehicle speed: 10 km/h (6 MPH) or more - Engine speed: More than 550 rpm - Output speed: More than 300 rpm - Secondary pulley speed: More than 300 rpm - A lapse of 500 msec or more after the stop lamp switch is turned from ON to OFF. - Command for the 1GR of auxiliary gearbox is in progress. - Auxiliary gearbox shifting is not in progress. - TCM power supply voltage: More than 11 V • Detection conditions - Acceleration/deceleration: Less than −0.05 G - Actual auxiliary gearbox gear ratio − Auxiliary gearbox 1GR ratio ≥ 50%	• High clutch & reverse brake solenoid valve • Control valve assembly
		The auxiliary gearbox gear ratio is ±10% or less for the auxiliary gearbox 2GR ratio continuously for 500 msec or more under the following diagnosis conditions: • Diagnosis conditions - Selector lever: Other than “P”, “R” and “N” positions - Accelerator pedal position: 0.7/8 or more - Engine speed: More than 550 rpm - Secondary pulley speed: More than 300 rpm - Output speed: More than 300 rpm - Command for the 1GR of auxiliary gearbox is in progress. - Auxiliary gearbox shifting is not in progress. - TCM power supply voltage: More than 11 V	

DTC CONFIRMATION PROCEDURE

CAUTION:

- **Be sure to perform “TM-237, "Diagnosis Procedure"” and then perform “DTC CONFIRMATION PROCEDURE”.**
- **Never perform “DTC CONFIRMATION PROCEDURE” before the repairs. Doing so may result in a secondary malfunction.**
- **Be careful of the driving speed.**

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.

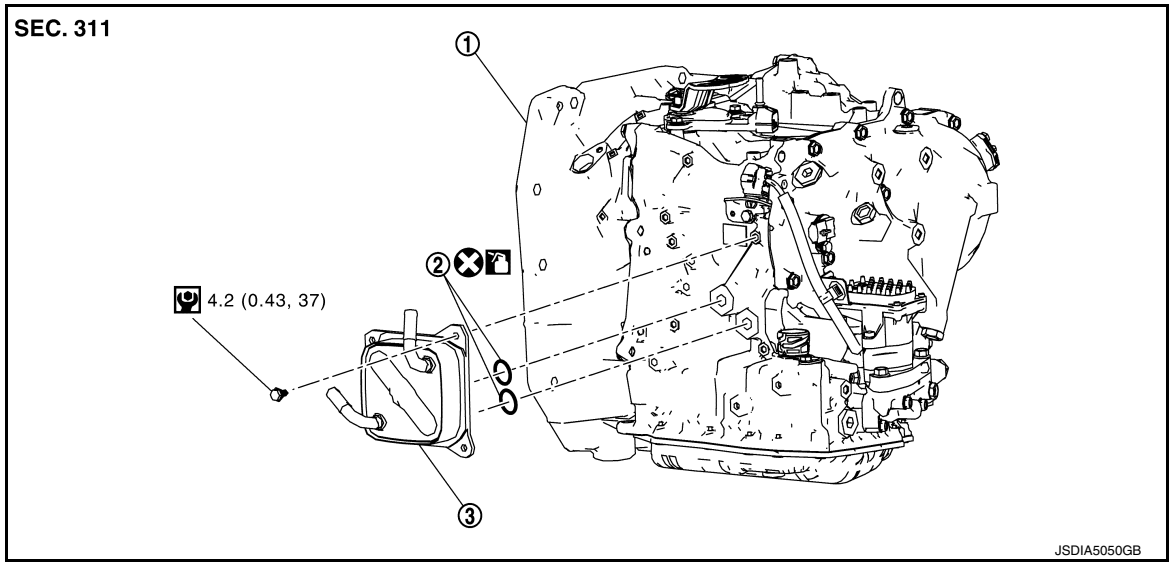
2.CHECK DTC DETECTION

1. Start the engine.

CVT OIL WARMER

Exploded View

INFOID:0000000012787652



1. Transaxle assembly
2. O-ring
3. CVT oil warmer

CVT fluid

Removal and Installation

INFOID:0000000012787653

REMOVAL

WARNING:

Do not remove the radiator cap when the engine is hot. Serious burns could occur from high pressure coolant escaping from the radiator. Wrap a thick cloth around the cap. Slowly turn it a quarter turn to allow built-up pressure to escape. Carefully remove the cap by turning it all the way.

CAUTION:

Perform these steps after the coolant temperature has cooled sufficiently.

1. Remove neighboring parts of CVT fluid warmer.
2. Remove CVT fluid warmer.
3. Remove O-ring.

INSTALLATION

Note the followings and install in the reverse order of removal.

CAUTION:

- **Do not reuse O-ring.**
- **Apply CVT fluid to O-ring.**

Inspection

INFOID:0000000012787654

INSPECTION AFTER INSTALLATION

- Start the engine and check visually that there is no leakage of engine coolant and CVT fluid.
- Check CVT fluid level.

Are self-diagnosis results normal?

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

4. NARROW DOWN MALFUNCTIONING PARTS BY SYMPTOM DIAGNOSIS

Perform symptom diagnosis and narrow down the malfunctioning parts.

>> GO TO 5.

5. REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts.

NOTE:

If DTC is displayed, erase DTC after repairing or replacing malfunctioning parts.

>> GO TO 6.

6. FINAL CHECK

Check that the warning buzzer in the combination meter operates normally.

Does it operate normally?

YES >> Inspection End.
NO >> GO TO 1.

LOW TIRE PRESSURE WARNING LAMP

Symptom Table

INFOID:0000000012787322

LOW TIRE PRESSURE WARNING LAMP SYMPTOM CHART