Monitor Item	Condition		Values/Status
RESUME/ACC SW	• Ignition switch: ON	ACCEL/RES switch: Pressed	ON
		ACCEL/RES switch: Released	OFF
SET SW	• Ignition switch: ON	COAST/SET switch: Pressed	ON
		COAST/SET switch: Released	OFF
BRAKE SW1 (Brake pedal position switch)	• Ignition switch: ON	COAST/SET switch: Pressed	ON
		COAST/SET switch: Released	OFF
BRAKE SW2 (Stop lamp switch)	• Ignition switch: ON	Brake pedal: Fully released	OFF
		Brake pedal: Slightly depressed	ON
VHCL SPD CUT	• Ignition switch: ON		NON
LO SPEED CUT	• Ignition switch: ON		NON
AT OD MONITOR	• Ignition switch: ON		OFF
AT OD CANCEL	• Ignition switch: ON		OFF
CRUISE LAMP	• Ignition switch: ON	MAIN switch: Pressed at the 1st time → at the 2nd time	ON → OFF
SET LAMP	**NOTE:** The item is indicated, but not used.		
ALT DUTY	• Engine: Idle		0 - 80%
BAT CUR SEN	• Engine speed: Idle • Battery: Fully charged • Selector lever position: P or N (A/T or CVT) or Neutral (M/T) • Air conditioner switch: OFF • No load		Approx 2,500 - 3,500 mV
A/F ADJ-B1	• Engine running		−0.330 - 0.330
P/N POSI SW	• Ignition switch: ON	Selector lever position: P or N (A/T or CVT) or Neutral (M/T)	ON
		Shift lever: Except above	OFF
INT/A TEMP SE	• Ignition switch: ON		Indicates intake air temperature
AC PRESS SEN	• Engine: Idle • Both A/C switch and blower fan switch: ON (Compressor operates.)		1.0 - 4.0 V
VTC DTY EX B1	• Engine: After warming up • Selector lever position: P or N (A/T or CVT) or Neutral (M/T) • Air conditioner switch: OFF • No load	Idle	0% - 2%
		2,000 rpm	Approx. 0% - 90%
THRTL STK CNT B1	**NOTE:** The item is indicated, but not used.		
EVAP LEAK DIAG	• Ignition switch: ON		Depending on condition of EVAP leak diagnosis
EVAP DIAG READY	• Ignition switch: ON (READY)		Depending on ready condition of EVAP leak diagnosis
A/F SEN1 DIAG1(B1)	• DTC P015A and P015B self-diagnosis is incomplete.		INCMP
	• DTC P015A and P015B self-diagnosis is complete.		CMPLT
A/F SEN1 DIAG2(B1)	• DTC P014C and P014D self-diagnosis is incomplete.		INCMP
	• DTC P014C and P014D self-diagnosis is complete.		CMPLT
A/F SEN1 DIAG3(B1)	• The vehicle condition is not within the diagnosis range of DTC P014C, P014D, P015A or P015B.		ABSNT
	• The vehicle condition is within the diagnosis range of DTC P014C, P014D, P015A or P015B.		PRSNT

QUICK REFERENCE CHART: VERSA SEDAN

Engine Tune-up Data

INFOID:0000000008955451

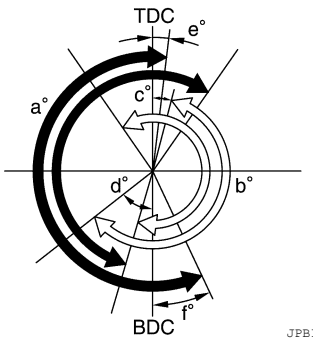
GENERAL SPECIFICATIONS

Engine type		HR16DE
Cylinder arrangement		In-line 4
Displacement cm^3 (cu in)		1,598 (97.51)
Bore and stroke mm (in)		78.0× 83.6 (3.071 ×3.291)
Valve arrangement		DOHC
Firing order		1-3-4-2
Number of piston rings	Compression	2
	Oil	1
Compression ratio		9.8
Compression pressure kPa (kg/cm^2, psi) / 200 rpm	Standard	1,510 (15.4, 219)
	Minimum	1,270 (12.95, 184)
	Differential limit between cylinders	100 (1.0, 14.5)

Valve Timing

Unit: degree

Valve timing
⇦: Intake valve
⬅: Exhaust valve



JPBIA4228ZZ

a	b	c	d	e	f
216	228	11 (–27) ATDC	59 (-21) ABDC	-1 (49) ATDC	37 (-13) BBDC

( ): Valve timing control “ON”

Drive Belt

INFOID:0000000008955452

DRIVE BELT

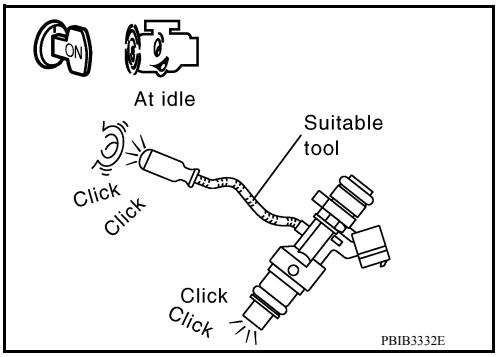
Belt Deflection

Location		Deflection adjustment *		Unit: mm (in)
		Used belt		New belt
		Limit	After adjusted	
Drive belt	With A/C	10 (0.39)	4.9 - 5.2 (0.19 - 0.20)	4.1 - 4.4 (0.16 - 0.17)
	Without A/C	9.1 (0.36)	4.3 - 4.7 (0.17 - 0.19)	3.7 - 3.9 (0.14 - 0.15)
Applied pushing force		98 N (10 kg-f, 22 lb-f)		

*: When engine is cold.

Without CONSULT

1. Let engine idle.
2. Listen to each fuel injector operating sound.



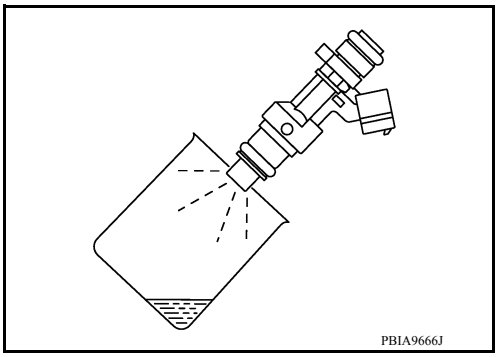
Clicking noise should be heard.

Is the inspection result normal?

YES >> GO TO 8.
NO >> Perform trouble diagnosis for FUEL INJECTOR. Refer to EC-432, "Component Function Check".

8. CHECK FUEL INJECTOR

1. Turn ignition switch OFF.
2. Confirm that the engine is cooled down and there are no fire hazards near the vehicle.
3. Disconnect all fuel injector harness connectors.
4. Remove fuel tube assembly. Refer to EM-37, "Removal and Installation".
   Keep fuel hose and all fuel injectors connected to fuel tube.
5. Disconnect all ignition coil harness connectors.
6. Prepare pans or saucers under each fuel injector.
7. Crank engine for about 3 seconds.



Fuel should be sprayed evenly for each fuel injector.

Is the inspection result normal?

YES >> GO TO 9.
NO >> Replace fuel injectors from which fuel does not spray out. Always replace O-ring with new ones. Refer to EM-37, "Removal and Installation".

9. CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> INSPECTION END

P1564 ASCD STEERING SWITCH

DTC Logic

INFOID:0000000009267254

DTC DETECTION LOGIC

NOTE:
If DTC P1564 is displayed with DTC P0605, first perform the trouble diagnosis for DTC P0605. Refer to EC-341, "DTC Logic".

DTC No.	Trouble diagnosis name (Trouble diagnosis content)	DTC detecting condition	Possible cause
P1564	ASCD SW (ASCD steering switch)	• An excessively high voltage signal from the ASCD steering switch is sent to ECM. • ECM detects that input signal from the ASCD steering switch is out of the specified range. • ECM detects that the ASCD steering switch is stuck ON.	• Harness or connectors (ASCD steering switch circuit is open or shorted.) • ASCD steering switch • ECM

DTC CONFIRMATION PROCEDURE

1.PRECONDITIONING

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

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

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Wait at least 10 seconds.
3. Press MAIN switch for at least 10 seconds, then release it and wait at least 10 seconds.
4. Press CANCEL switch for at least 10 seconds, then release it and wait at least 10 seconds.
5. Press ACCEL/RES switch for at least 10 seconds, then release it and wait at least 10 seconds.
6. Press COAST/SET switch for at least 10 seconds, then release it and wait at least 10 seconds.
7. Check DTC.

Is DTC detected?

YES >> Proceed to EC-378, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009267255

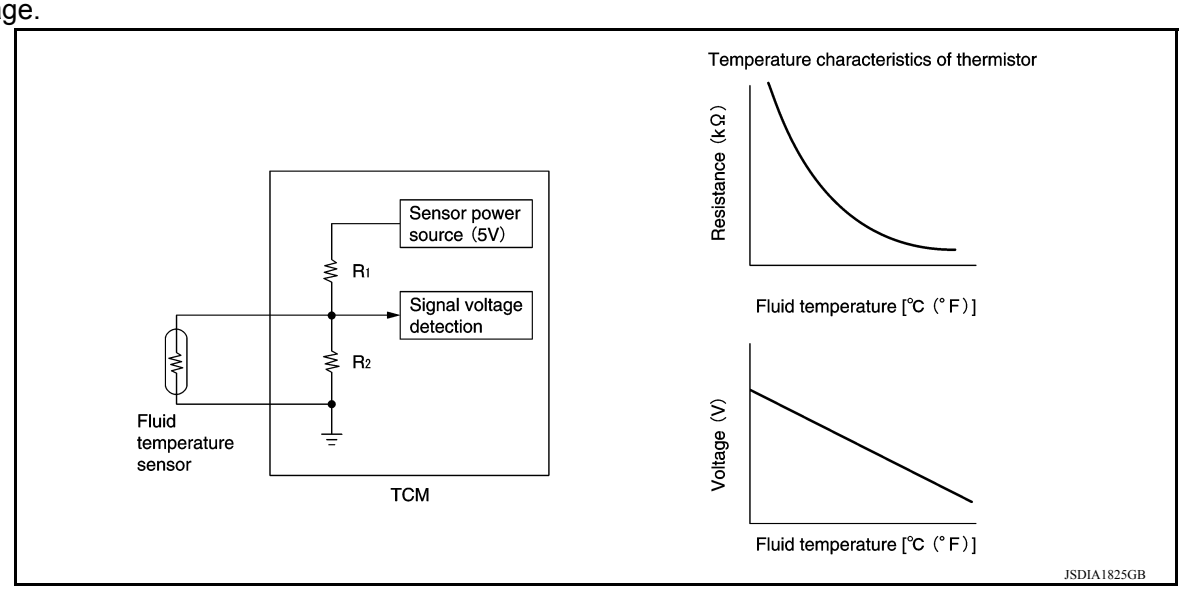
1.CHECK ASCD STEERING SWITCH CIRCUIT

With CONSULT

1. Turn ignition switch ON.
2. Select “MAIN SW”, “CANCEL SW”, “RESUME/ACC SW” and “SET SW” in “DATA MONITOR” mode of “ENGINE” using CONSULT.
3. Check each item indication as per the following conditions.

Monitor item	Condition		Indication
MAIN SW	MAIN switch	Pressed	ON
		Released	OFF
CANCEL SW	CANCEL switch	Pressed	ON
		Released	OFF
RESUME/ACC SW	ACCEL/RES switch	Pressed	ON
		Released	OFF

- The fluid temperature sensor uses a thermistor, and changes the signal voltage by converting changes in the A/T fluid temperature to a resistance value. The TCM judges the A/T fluid temperature based on that signal voltage.



A/T CONTROL SYSTEM : Low Clutch Solenoid Valve

INFOID:0000000009267828

- The low clutch solenoid valve is installed to control valve.
- The low clutch solenoid valve adjusts the pressure to the low clutch engage pressure and disengage pressure. For information about the low clutch, refer to TM-65, "A/T CONTROL SYSTEM : Component Description".
- The low clutch solenoid valve utilizes a linear solenoid valve [N/H (normal high) type].

NOTE:
- The principle of the linear solenoid valve utilizes the fact that the force pressing on the valve spool installed inside the coil increases nearly in proportion to the current. This allows it to produce a fluid pressure that is proportional to this pressing force.
- The N/H (normal high) produces oil pressure when the coil is not energized.

A/T CONTROL SYSTEM : 2-4 Brake Solenoid Valve

INFOID:0000000009267829

- 2-4 brake solenoid valve is installed to control valve.
- The 2-4 brake solenoid valve adjusts the pressure of the 2-4 brake band engage and disengage pressures. For information about the 2-4 brake band, refer to TM-65, "A/T CONTROL SYSTEM : Component Description".
- The 2-4 brake solenoid valve utilizes a linear solenoid valve [N/L (normal low) type].

NOTE:
- The principle of the linear solenoid valve utilizes the fact that the force pressing on the valve spool installed inside the coil increases nearly in proportion to the current. This allows it to produce a fluid pressure that is proportional to this pressing force.
- The N/L (normal low) produces oil pressure when the coil is not energized.

A/T CONTROL SYSTEM : Select Switch On-Off Solenoid Valve

INFOID:0000000009267830

- The select switch ON-OFF solenoid valve is installed to control valve.
- The selector switch ON-OFF solenoid valve controls the switch valve that switches the oil pressure applied to the low & reverse brake and the reverse clutch.
- The selector switch ON-OFF solenoid valve utilizes an ON-OFF solenoid valve.

NOTE:
- The only operations of the valve spool installed inside the coil are pressing or not pressing the ball which seals the hydraulic supply section into the seat. This A/T uses N/L (normal low) type.
- When voltage is not applied to the coil, the force of the pilot pressure presses the ball against the seat, stopping the pilot pressure at that point.
- When voltage is applied to the coil, the valve is pulled in the direction of the coil, disengaging the hydraulic seal which the ball creates. This supplies pilot pressure to the operating locations.

REVERSE PROHIBIT CONTROL

Control	The reverse brake is controlled to avoid becoming engaged when the selector lever is set in “R” position while driving in forward direction at more than the specified speed.
Vehicle behavior in control	If the selector lever is put at “R” position when driving with the forward gear, the gear becomes neutral, not reverse.
Normal return condition	The control returns to normal control when the vehicle is driven at low speeds. (The reverse brake becomes engaged.)

DTC Inspection Priority Chart

INFOID:0000000009268105

If multiple malfunction codes are detected at the same time, check each code according to the DTC check priority list below.

Priority	DTC (Diagnostic Trouble Code)	Reference
1	P0863 CONTROL UNIT (CAN)	TM-380
	U0073 COMM BUS A OFF	TM-334
	U0100 LOST COMM (ECM A)	TM-335
	U0140 LOST COMM (BCM)	TM-336
	U0141 LOST COMM (BCM A)	TM-337
	U0155 LOST COMM (IPC)	TM-338
	U0300 CAN COMM DATA	TM-339
	U1000 CAN COMM CIRC	TM-340
	U1117 LOST COMM (ABS)	TM-341
2	P0740 TORQUE CONVERTER	TM-366
	P0743 TORQUE CONVERTER	TM-368
	P0962 PC SOLENOID A	TM-382
	P0963 PC SOLENOID A	TM-384
	P0966 PC SOLENOID B	TM-387
	P0967 PC SOLENOID B	TM-389
	P0998 SHIFT SOLENOID F	TM-391
	P0999 SHIFT SOLENOID F	TM-393
	P099B SHIFT SOLENOID G	TM-395
	P099C SHIFT SOLENOID G	TM-397
3	P0890 TCM	TM-381
4	P062F EEPROM	TM-342
	P0705 T/M RANGE SENSOR A	TM-343
	P0706 T/M RANGE SENSOR A	TM-349
	P0711 FLUID TEMP SENSOR A	TM-353
	P0712 FLUID TEMP SENSOR A	TM-356
	P0713 FLUID TEMP SENSOR A	TM-358
	P0715 INPUT SPEED SENSOR A	TM-360
	P0847 FLUID PRESS SEN/SW B	TM-376
	P0848 FLUID PRESS SEN/SW B	TM-378
	P1586 G SENSOR	TM-399
	P1588 G SENSOR	TM-402
	P2765 OUTPUT SPEED SENSOR	TM-404
5	P0720 OUTPUT SPEED SENSOR	TM-363

BRAKE WARNING LAMP

Component Function Check

INFOID:0000000009267659

1.CHECK BRAKE WARNING LAMP FUNCTION (1)

Check that brake warning lamp in combination meter turns ON for approximately 2 seconds after ignition switch is turned ON.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Proceed to diagnosis procedure. Refer to BRC-93, "Diagnosis Procedure".

2.CHECK BRAKE WARNING LAMP FUNCTION (2)

Check that brake warning lamp in combination meter turns ON/OFF when parking brake is operated.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check parking brake switch system. Refer to BRC-88, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009267660

1.PERFORM THE SELF-DIAGNOSIS

With CONSULT.
Perform self diagnostic result.

Are any DTCs detected?

YES >> Refer to BRC-43, "DTC Index".
NO >> GO TO 2.

2.CHECK COMBINATION METER

Check if indication and operation of combination meter are normal. Refer to MWI-10, "METER SYSTEM : System Description" (type A) and MWI-60, "METER SYSTEM : System Description" (type B).

Is the inspection result normal?

YES >> Replace ABS actuator and electric unit (control unit). Refer to BRC-108, "Removal and Installation".
NO >> Replace combination meter. Refer to MWI-53, "Removal and Installation" (type A) or MWI-104, "Removal and Installation" (type B).

SYMPTOM DIAGNOSIS

HEATER AND AIR CONDITIONING SYSTEM SYMPTOMS

Symptom Table

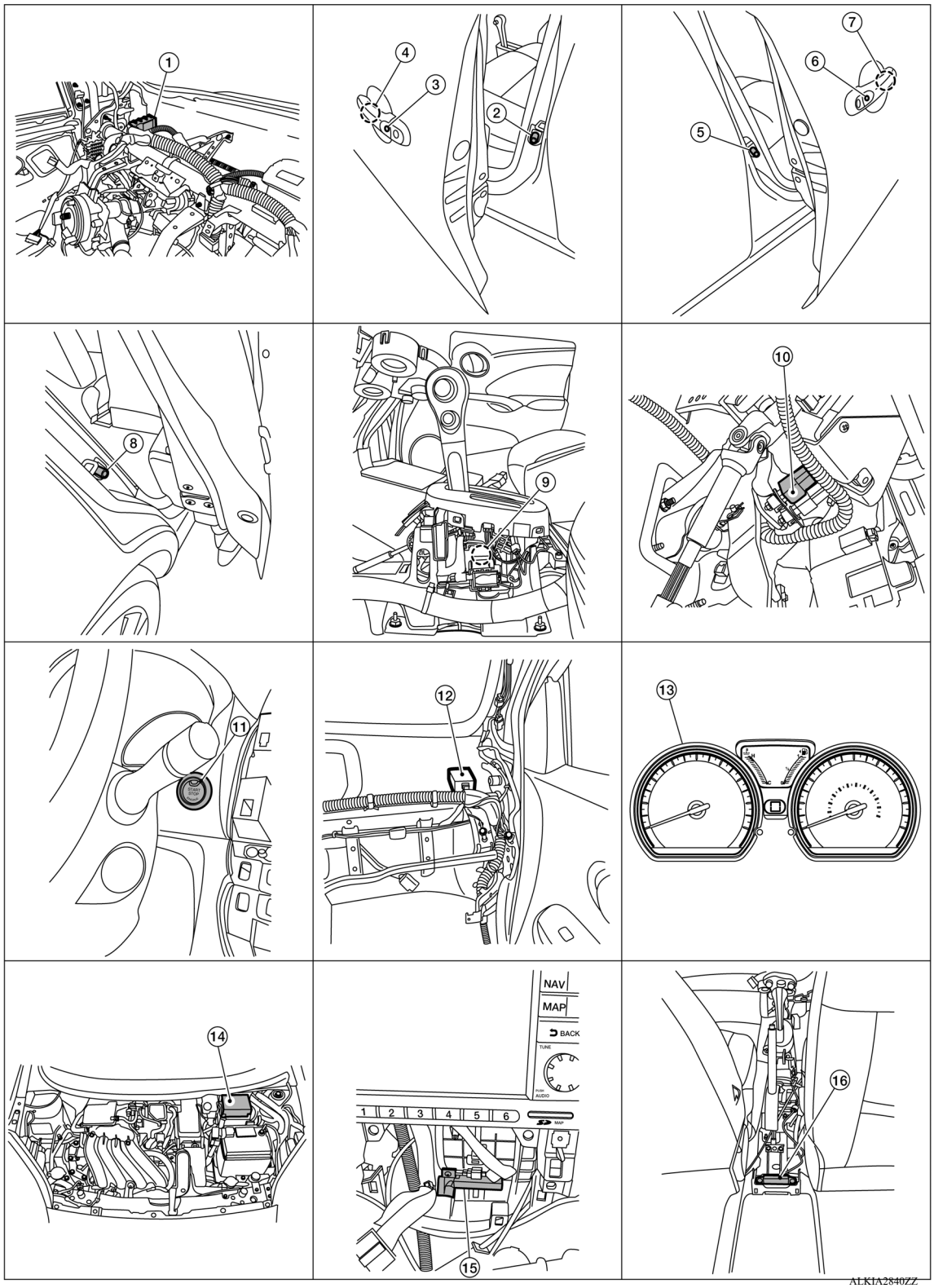
INFOID:0000000009269747

SYMPTOM TABLE

Symptom	Reference Page	
A/C system does not come on.	Go to Trouble Diagnosis Procedure for A/C System.	HAC-30
A/C system cannot be controlled.	Go to Self-diagnosis Function.	HA-15
Air outlet does not change.	Go to Adjustment Procedure for Mode Door.	HAC-52
Discharge air temperature does not change.	Go to Adjustment Procedure for Air Mix Door.	HAC-53
Intake door does not change.	Go to Adjustment Procedure for Intake Door.	HAC-51
Front blower motor operation is malfunctioning.	Go to Trouble Diagnosis Procedure for Front Blower Motor.	HAC-38
Magnet clutch does not engage.	Go to Trouble Diagnosis Procedure for Magnet Clutch.	HAC-42
Insufficient cooling.	Go to Trouble Diagnosis Procedure for Insufficient Cooling.	HAC-45
Insufficient heating.	Go to Trouble Diagnosis Procedure for Insufficient Heating.	HAC-46
Noise.	Go to Trouble Diagnosis Procedure for Noise.	HA-28
A/C switch LED does not illuminate.	Go to Trouble Diagnosis Procedure for A/C System.	HAC-37
Both high- and low-pressure sides are too high.	Go to Trouble Diagnosis Procedure for Abnormal Pressure.	HA-26
High-pressure side is too high and low pressure side is too low.	Go to Trouble Diagnosis Procedure for Abnormal Pressure.	HA-26
High-pressure side is too low and low-pressure side is too high.	Go to Trouble Diagnosis Procedure for Abnormal Pressure.	HA-26
Both high- and low-pressure side sometimes become negative.	Go to Trouble Diagnosis Procedure for Abnormal Pressure.	HA-26
Low-pressure side sometimes becomes negative.	Go to Trouble Diagnosis Procedure for Abnormal Pressure.	HA-26
Low-pressure side becomes negative.	Go to Trouble Diagnosis Procedure for Abnormal Pressure.	HA-26

INTELLIGENT KEY SYSTEM : Component Parts Location

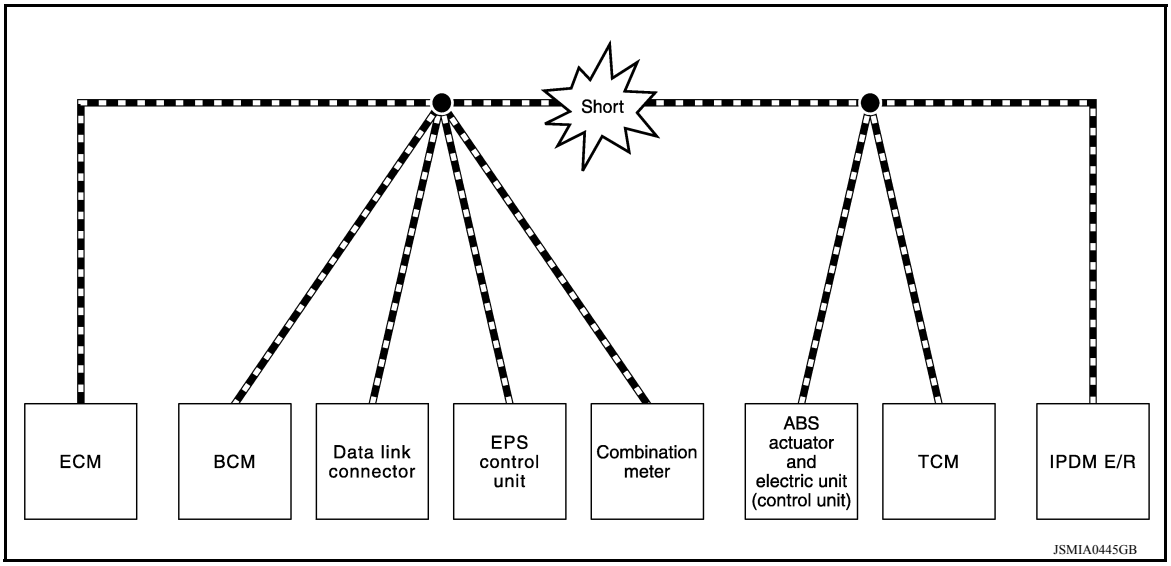
INFOID:0000000009268717



Unit name	Major symptom
ECM	Normal operation.
BCM	
EPS control unit	
Combination meter	
ABS actuator and electric unit (control unit)	
TCM	
IPDM E/R	

NOTE:
When data link connector branch line is open, transmission and reception of CAN communication signals are not affected. Therefore, no symptoms occur. However, be sure to repair malfunctioning circuit.

Example: CAN-H, CAN-L Harness Short Circuit



Unit name	Major symptom
ECM	• Engine torque limiting is affected, and shift harshness increases. • Engine speed drops.
BCM	• Reverse warning buzzer does not sound. • The front wiper moves under continuous operation mode even though the front wiper switch being in the intermittent position. • The room lamp does not turn ON. • The engine does not start (if an error or malfunction occurs while turning the ignition switch OFF.) • The steering lock does not release (if an error or malfunction occurs while turning the ignition switch OFF.)
EPS control unit	The steering effort increases.
Combination meter	• The tachometer and the speedometer do not move. • Warning lamps turn ON. • Indicator lamps do not turn ON.
ABS actuator and electric unit (control unit)	Normal operation.
TCM	No impact on operation.
IPDM E/R	When the ignition switch is ON, • The headlamps (Lo) turn ON. • The cooling fan continues to rotate.

CAN Diagnosis with CONSULT

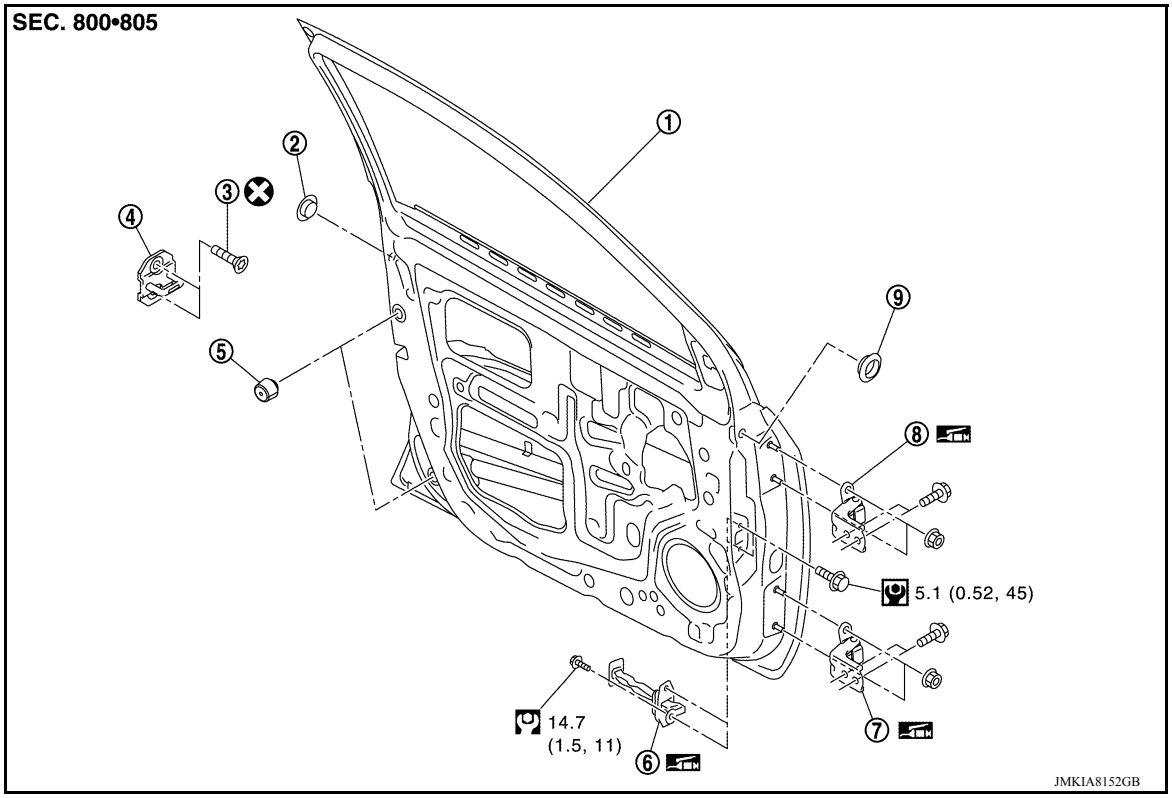
INFOID:0000000009269339

CAN diagnosis on CONSULT extracts the root cause by receiving the following information.

FRONT DOOR

Exploded View

INFOID:0000000009268843



1. Front door assembly
2. Grommet
3. Striker bolt
4. Door striker
5. Bumper rubber
6. Door check link
7. Door hinge (lower)
8. Door hinge (upper)
9. Grommet (Driver side only)

DOOR ASSEMBLY

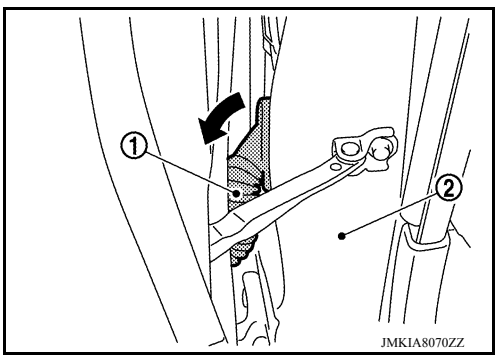
DOOR ASSEMBLY : Removal and Installation

INFOID:0000000009268844

CAUTION:
- **Use two people when removing or installing front door due to its heavy weight**
- **When removing and installing front door assembly, support the door using a suitable tool.**
- **Use shops cloths to protect surrounding components from damage during removal and installation of front door assembly.**

REMOVAL

1. Remove front door harness grommet (1) and then pull out the harness from the vehicle (2).



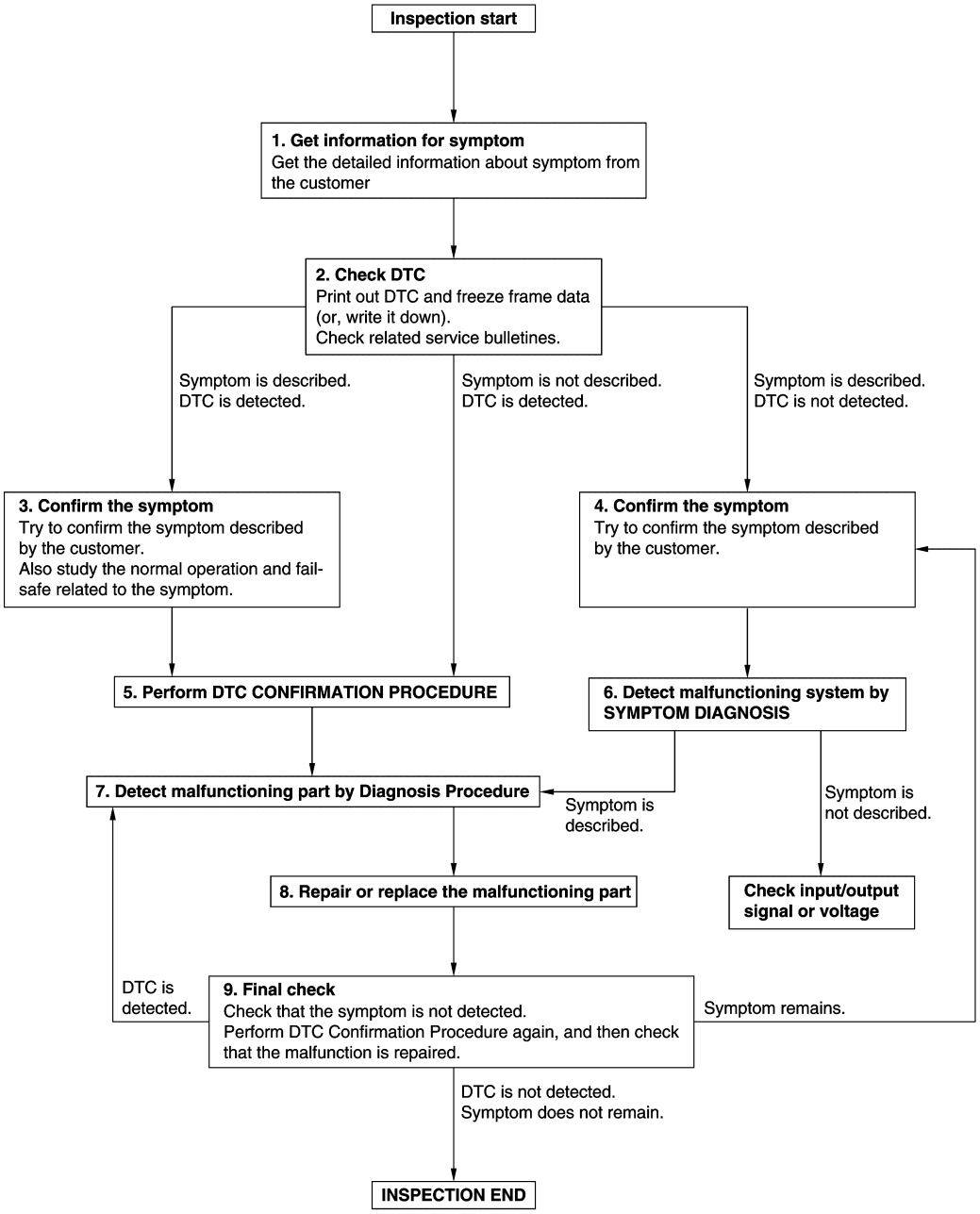
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000009268379

OVERALL SEQUENCE



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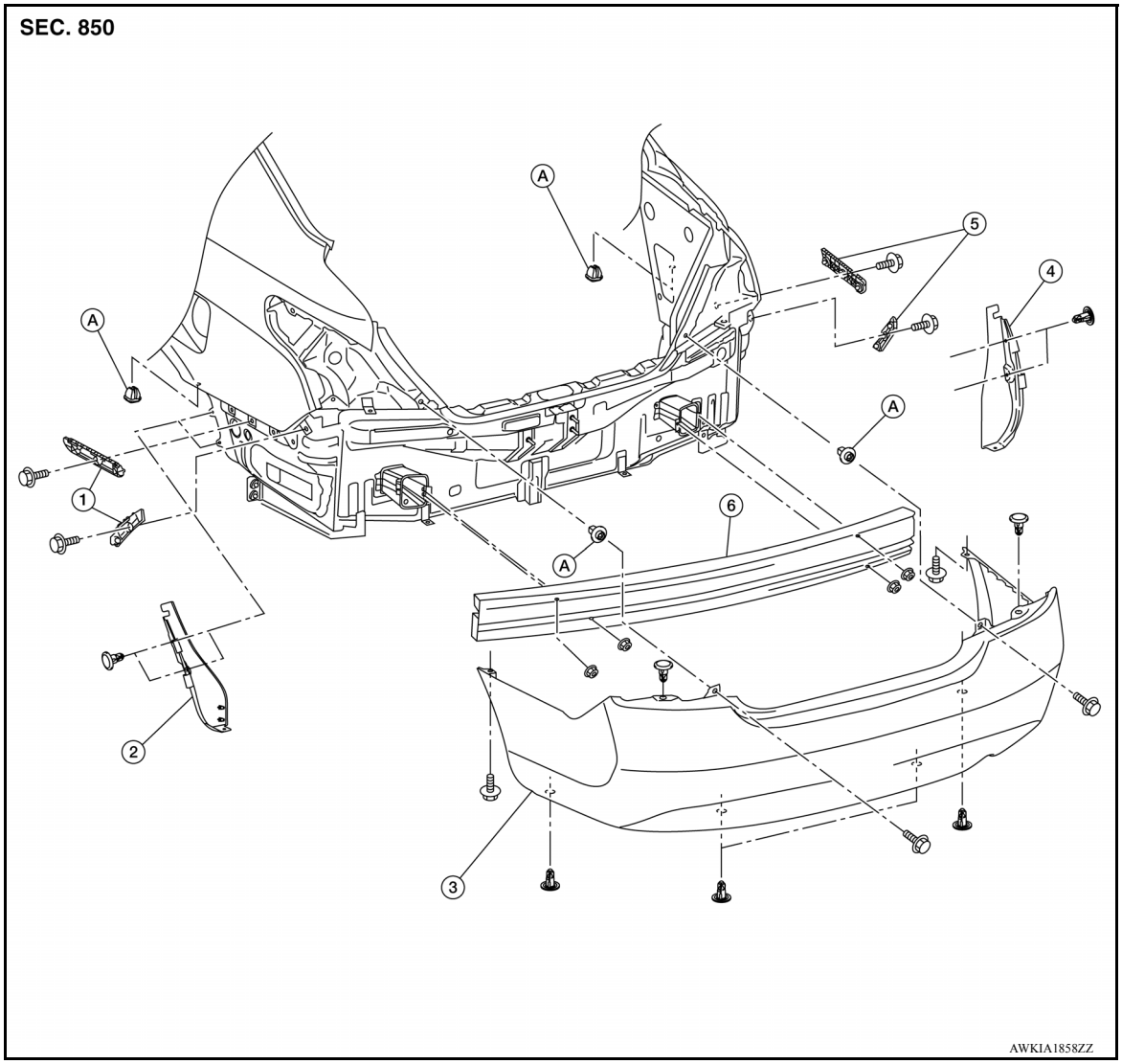
DETAILED FLOW

REAR BUMPER

Exploded View

INFOID:0000000009268554



1. Rear bumper side brackets (LH)
2. Rear bumper closing (LH)
3. Rear bumper fascia
4. Rear bumper closing (RH)
5. Rear bumper side brackets (RH)
6. Rear bumper reinforcement
A. Screw grommet

Removal and Installation

INFOID:0000000009268555

REMOVAL

CAUTION:

Bumper fascia is made of resin. Do not apply strong force to it, and be careful to prevent contact with oil.

1. Remove rear combination lamps (LH/RH). Refer to EXL-109, "Removal and Installation".

BACK-UP LAMP CONNECTORS

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1A	GR	–

Connector No.	E7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1A	GR	–

Connector No.	E21
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
14	SB	–

Connector No.	E45
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
21	R	AT ECU (WITH A/T OR CVT)

Connector No.	E55
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
6	GR	–
7	R	–
10	SB	–

Connector No.	F24
Connector Name	PARK/NEUTRAL POSITION (PNP) SWITCH
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	O	–
2	R	–

ABLIA4075GB

BLUETOOTH® VOICE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000009375231

Regarding Wiring Diagram information, refer to AV-105, "Wiring Diagram".

1.CHECK BLUETOOTH® VOICE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M47 and Bluetooth® control unit connector B33.
3. Check continuity between audio unit connector M47 and Bluetooth® control unit connector B33.

Audio unit		Bluetooth® control unit		Continuity
Connector	Terminal	Connector	Terminal	
M47	25	B33	9	Yes

4. Check continuity between audio unit connector M47 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M47	25	—	No

Is inspection result normal?

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

2.CHECK BLUETOOTH® VOICE SIGNAL GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M47 and Bluetooth® control unit connector B33.

Audio unit		Bluetooth® control unit		Continuity
Connector	Terminal	Connector	Terminal	
M47	24	B33	10	Yes

Is inspection result normal?

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

3.CHECK BLUETOOTH® VOICE SIGNAL

1. Connect audio unit connector M47 and Bluetooth® control unit connector B33.
2. Turn ignition switch to ACC.
3. Press switch.
4. Check signal between the terminals of audio unit connector M47.