

ACCELERATOR CONTROL SYSTEM

< UNIT REMOVAL AND INSTALLATION >

UNIT REMOVAL AND INSTALLATION

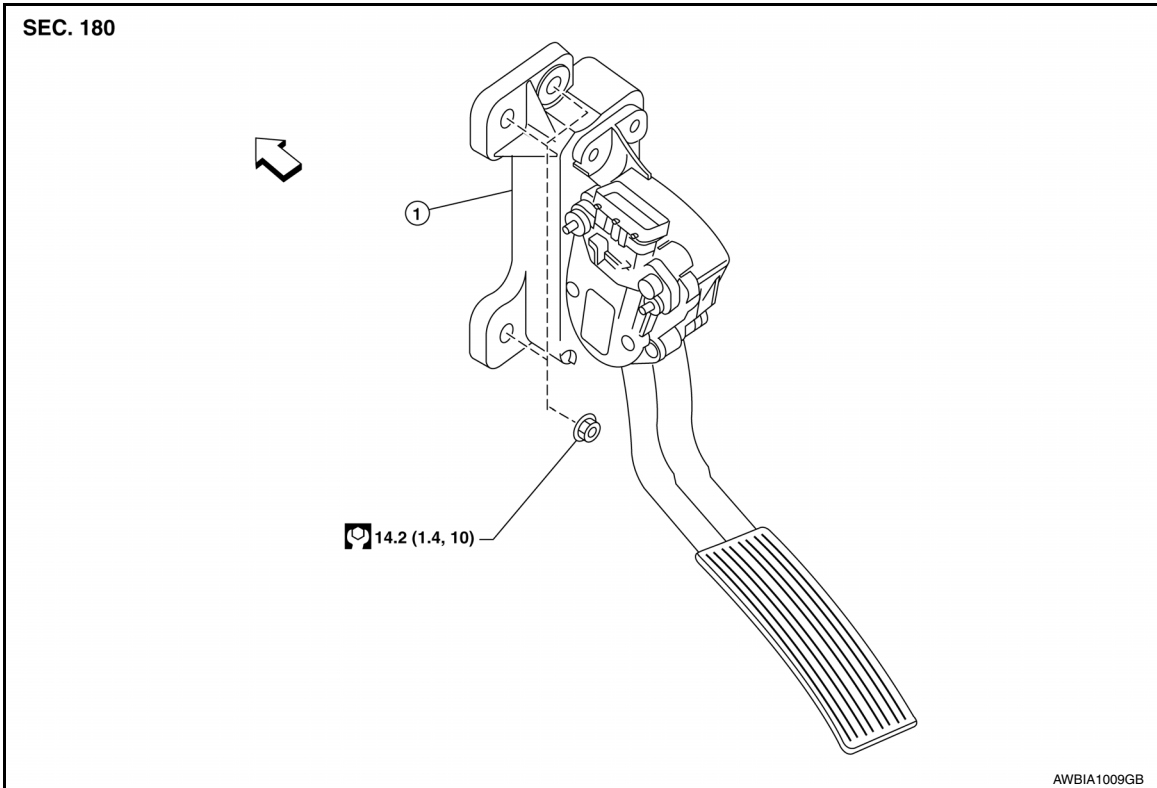
ACCELERATOR CONTROL SYSTEM

Component

INFOID:000000009484319

A

ACC



1. Accelerator pedal assembly

↔ Front

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Removal and Installation

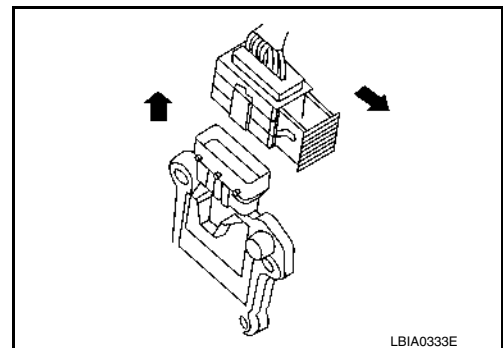
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REMOVAL

1. Disconnect the negative battery terminal. Refer to [PG-72, "Removal and Installation"](#).
2. Disconnect the harness connector from the accelerator position sensor.
 - a. Pull the connector lock back to unlock the connector from the accelerator pedal position sensor as shown.
 - b. Pull up on the connector to disconnect it from the accelerator pedal position sensor as shown.
3. Remove the two upper and one lower accelerator pedal nuts.
4. Remove the accelerator pedal assembly.

CAUTION:

- Do not disassemble the accelerator pedal assembly.
- Do not remove the accelerator pedal position sensor from the accelerator pedal bracket.
- Avoid damage from dropping the accelerator pedal assembly during handling.
- Keep the accelerator pedal assembly away from water.



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INSTALLATION

Installation is in the reverse order of removal.

INSPECTION AFTER INSTALLATION

COMPONENT PARTS

< SYSTEM DESCRIPTION >

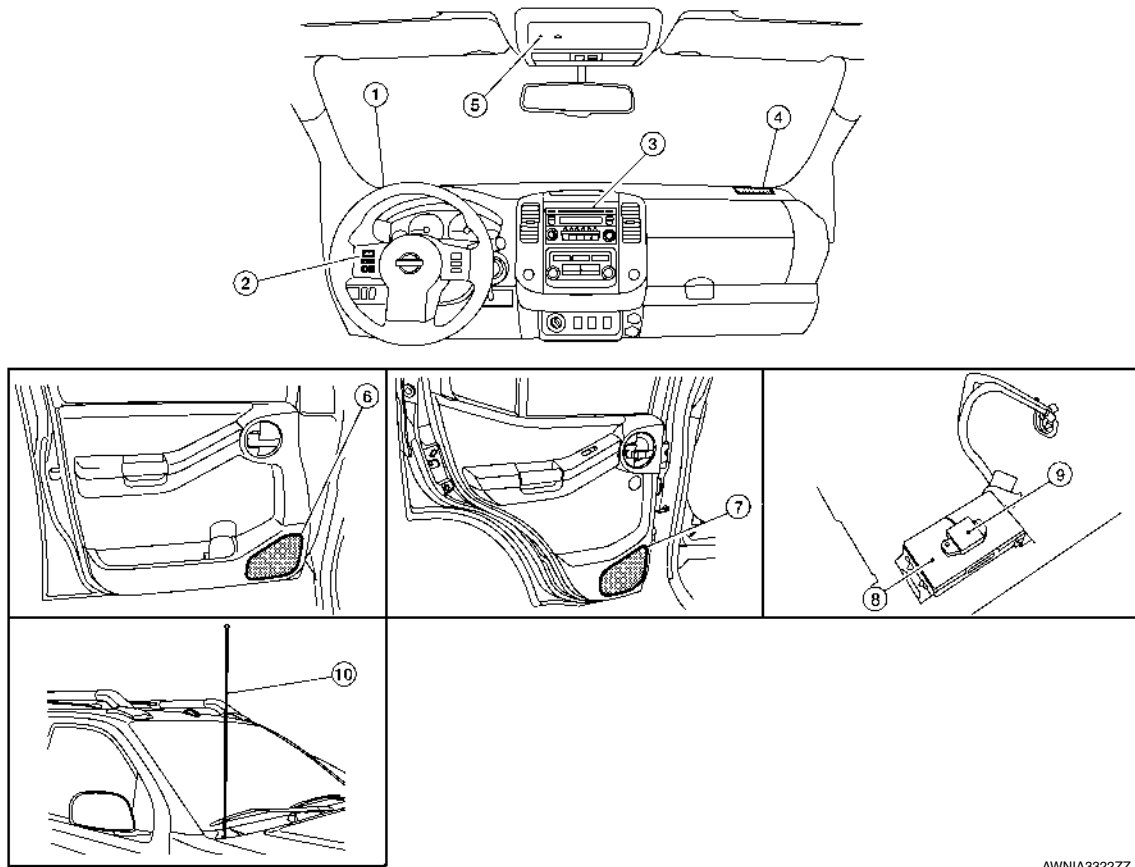
[BASE AUDIO]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010247109



AWNIA332ZZZ

- | | | |
|---|--|--|
| 1. Front tweeter LH M109 | 2. Steering wheel audio control switches | 3. Audio unit M32, M43, M52 |
| 4. Front tweeter RH M111 | 5. Microphone R8 | 6. Front door speaker LH D12
Front door speaker RH D112 |
| 7. Rear door speaker LH D207
Rear door speaker RH D307 | 8. Bluetooth® control unit B141, B142,
B143 (Underneath passenger seat) | 9. Bluetooth® antenna |
| 10. Rod antenna | | |

Component Description

INFOID:0000000010247110

Part name	Description
Audio unit	Controls audio and AUX IN connection
Front door speakers	• Outputs high, mid and low range audio signals from audio unit.
Front tweeters	
Rear door speakers	
Steering wheel audio control switches	<ul style="list-style-type: none"> • Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to Bluetooth® control unit. • Bluetooth® control unit outputs steering switch signal to audio unit.

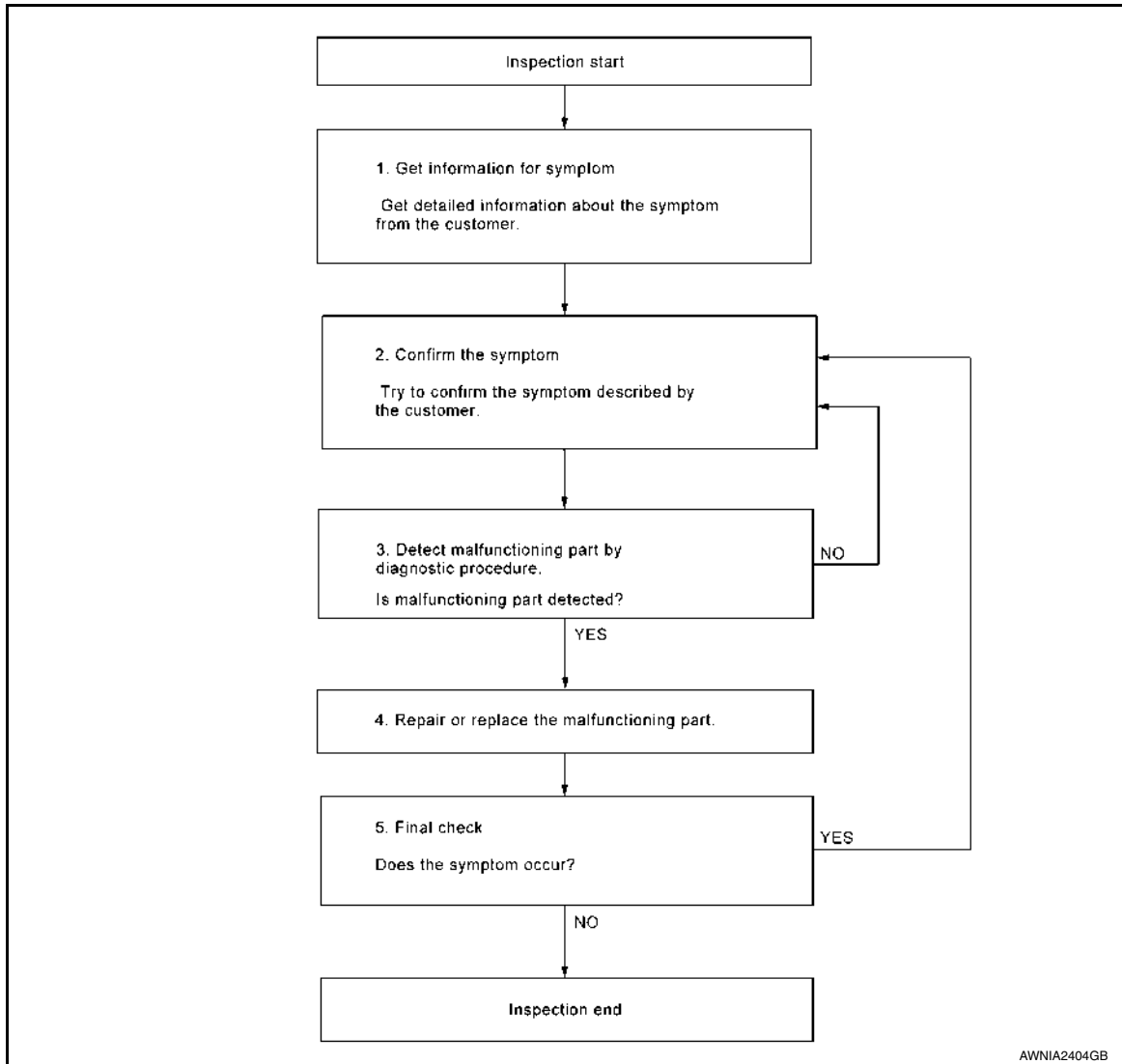
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000009485268

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2

2.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected. Refer to [AV-201. "Symptom Table"](#).

>> GO TO 3

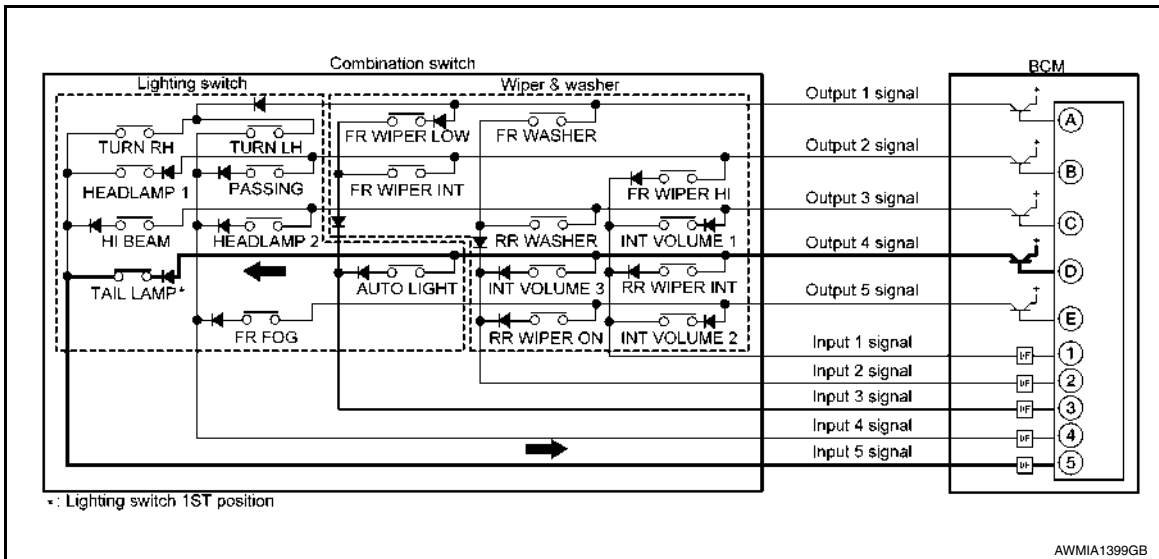
3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

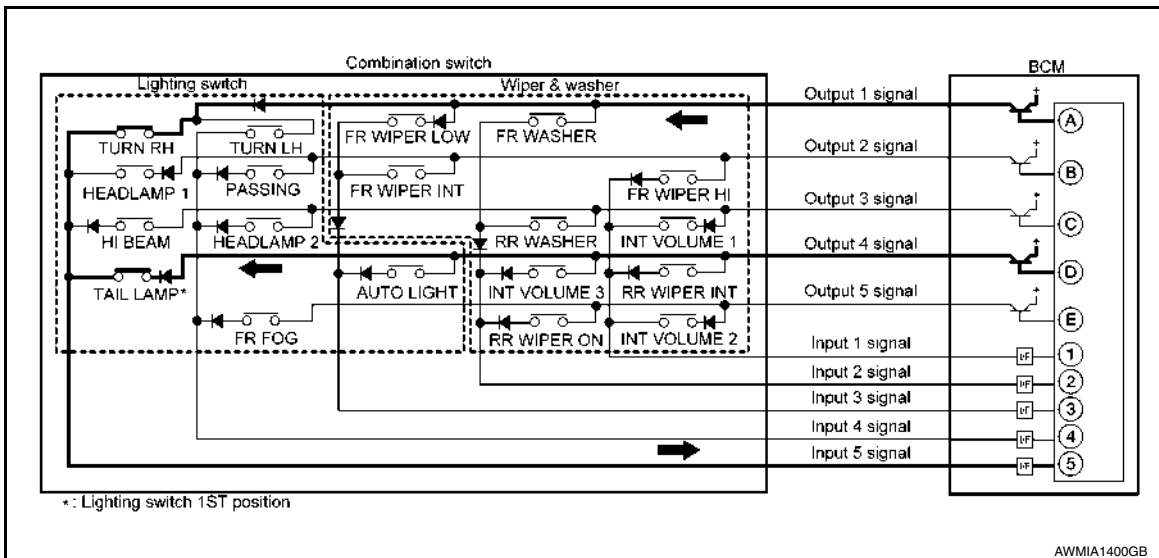
- The circuit between OUTPUT 4 and INPUT 5 is formed when the TAIL LAMP switch is turned ON.



- BCM detects the combination switch status signal “5D” when the signal of OUTPUT 4 is input to INPUT 5.
- BCM judges that the TAIL LAMP switch is ON when the signal “5D” is detected.

Example 2: When some switches (TURN RH, TAIL LAMP) are turned ON

- The circuits between OUTPUT 1 and INPUT 5 and between OUTPUT 4 and INPUT 5 are formed when the TURN RH switch and TAIL LAMP switch are turned ON.



- BCM detects the combination switch status signal “5AD” when the signals of OUTPUT 1 and OUTPUT 4 are input to INPUT 5.
- BCM judges that the TURN RH switch and TAIL LAMP switch are ON when the signal “5AD” is detected.

WIPER INTERMITTENT DIAL POSITION SETTING (FRONT WIPER INTERMITTENT OPERATION)

BCM judges the wiper intermittent dial 1 - 7 by the status of INT VOLUME 1, 2, and 3 switches.

ACTUATOR AND ELECTRIC UNIT (ASSEMBLY)

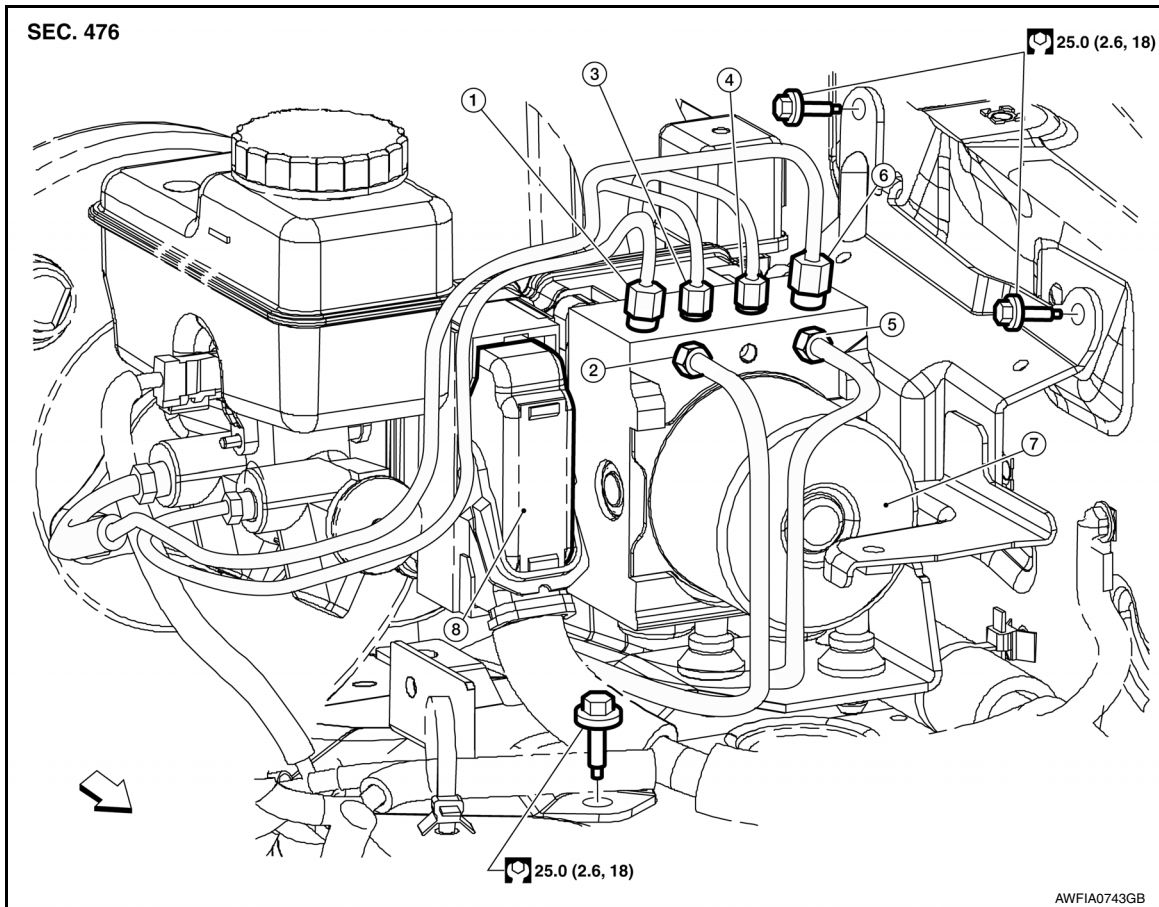
< UNIT REMOVAL AND INSTALLATION >

[TYPE 1]

ACTUATOR AND ELECTRIC UNIT (ASSEMBLY)

Removal and Installation

INFOID:000000009482707



- | | | |
|---|--|---|
| 1. From master cylinder secondary side
18.2 N·m (1.9 kg-m, 13 ft-lb) | 2. To rear right disc brake
13.0 N·m (1.3 kg-m, 10 ft-lb) | 3. To rear left disc brake
13.0 N·m (1.3 kg-m, 10 ft-lb) |
| 4. To front right disc brake
13.0 N·m (1.3 kg-m, 10 ft-lb) | 5. To front left disc brake
13.0 N·m (1.3 kg-m, 10 ft-lb) | 6. From master cylinder primary side
18.2 N·m (1.9 kg-m, 13 ft-lb) |
| 7. ABS actuator and electric unit (control unit) | 8. Harness connector | ⇐ Front |

NOTE:

When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.

REMOVAL

1. Disconnect the negative battery terminal. Refer to [PG-72, "Removal and Installation"](#).
2. Remove air cleaner case. Refer to [EM-24, "Exploded View"](#).
3. Disconnect the harness connector from the ABS actuator and electric unit (control unit).
4. Disconnect the brake tubes.

CAUTION:

- To remove the brake tubes, use a flare nut wrench to prevent the flare nuts and brake tubes from being damaged.
- Be careful not to splash brake fluid on painted areas; it may cause paint damage. If brake fluid is splashed on painted areas, wash it away with water immediately.

5. Remove three bolts, then remove the ABS actuator and electric unit (control unit) and bracket.
6. Remove the bolt and remove the bracket from the ABS actuator and electric unit (control unit).

INSTALLATION

WATER INLET AND THERMOSTAT ASSEMBLY

[VQ40DE]

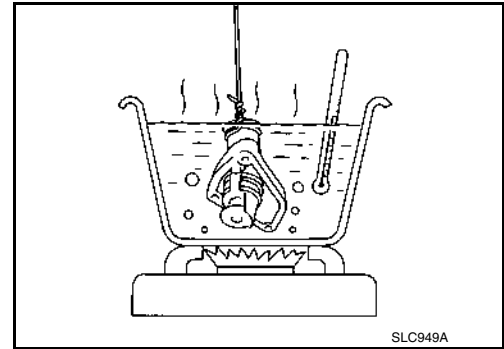
< REMOVAL AND INSTALLATION >

2. Check valve operation.

- Place a thread so that it is caught in the valve of the thermostat. Immerse fully in a container filled with water. Heat while stirring.
- The valve opening temperature is the temperature at which the valve opens and falls from the thread.
- Continue heating. Check the full-open lift amount.

NOTE:

The full-open lift amount standard temperature is the reference value.



- After checking the full-open lift amount, lower the water temperature and check the valve closing temperature.

Thermostat	Standard
Valve opening temperature	Refer to CO-30, "Standard and Limit" .
Full-open lift amount	Refer to CO-30, "Standard and Limit" .
Valve closing temperature	Refer to CO-30, "Standard and Limit" .

- If valve seating at measured values are out of standard range, replace water inlet and thermostat assembly.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Do not spill engine coolant in engine room. Use a shop cloth to absorb engine coolant.

INSPECTION AFTER INSTALLATION

- Check for engine coolant leaks. Refer to [CO-10, "System Inspection"](#).
- Start and warm up engine. Visually check for coolant leaks. Repair as necessary.
- Check and adjust engine coolant level. Refer to [MA-12, "Fluids and Lubricants"](#).

P0196 EOT SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[VQ40DE]

P0196 EOT SENSOR

DTC Logic

INFOID:000000009483956

DTC DETECTION LOGIC

NOTE:

If DTC P0196 is displayed with DTC P0197 or P0198, first perform the trouble diagnosis for DTC P0197 or P0198. Refer to [EC-259, "DTC Logic"](#).

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detecting condition		Possible cause
P0196	EOT SENSOR (Engine oil temperature sensor range/performance)	A)	Rationally incorrect voltage from the sensor is sent to ECM, compared with the voltage signals from EOT sensor and intake air temperature sensor.	<ul style="list-style-type: none">• Harness or connectors (EOT sensor circuit is open or shorted)• EOT sensor
		B)	The comparison result of signals transmitted to ECM from each temperature sensor (IAT sensor, ECT sensor, FTT sensor, and EOT sensor) shows that the signal voltage of the EOT sensor is higher/lower than that of other temperature sensors when the engine is started with its cold state.	<ul style="list-style-type: none">• Harness or connectors (High or low resistance in the EOT sensor circuit)• EOT sensor

DTC CONFIRMATION PROCEDURE

1. INSPECTION START

Is it necessary to erase permanent DTC?

YES >> GO TO 6.

NO >> GO TO 2.

2. 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, confirm that battery voltage is 11 V or more at idle.

>> GO TO 3.

3. PERFORM DTC CONFIRMATION PROCEDURE FOR MALFUNCTION A-1

1. Start engine and warm it up to normal operating temperature.
2. Turn ignition switch OFF and wait at least 10 seconds.
3. Turn ignition switch ON.
4. Turn ignition switch OFF and wait at least 10 seconds.
5. Start engine and let it idle for 5 minutes and 10 seconds.
6. Check 1st trip DTC.

Is 1st trip DTC detected?

YES >> Proceed to [EC-257, "Diagnosis Procedure"](#).

NO >> GO TO 4.

4. PERFORM DTC CONFIRMATION PROCEDURE FOR MALFUNCTION A-2

Ⓜ With CONSULT

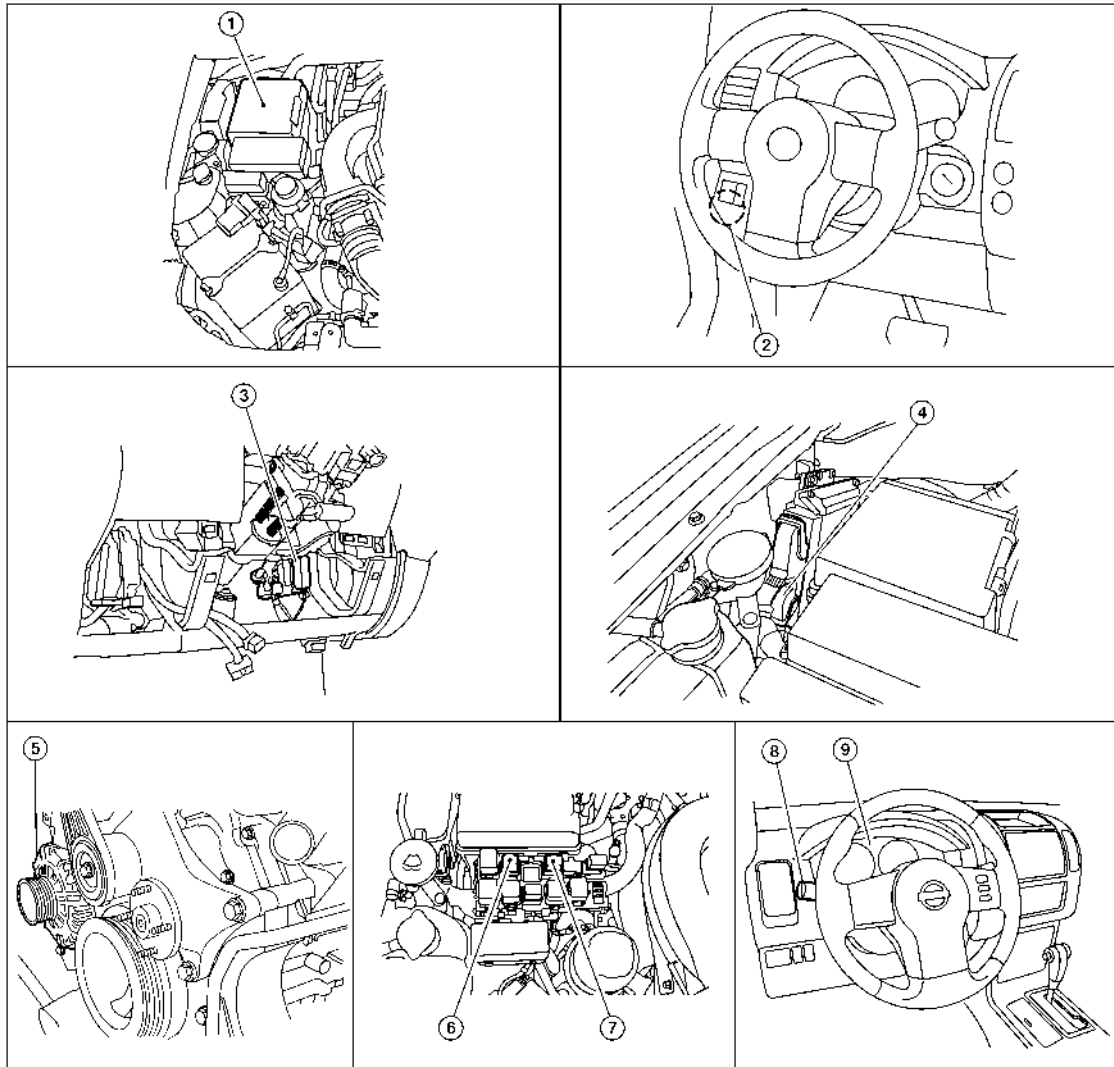
1. Select "DATA MONITOR" mode of "ENGINE" using CONSULT.
2. Check that "COOLAN TEMP/S" indicates above 60°C (140°F).
If it is above 60°C (140°F), go to the following steps.

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000009484851



WKIA4958E

- | | | |
|--|---|---|
| 1. IPDM E/R E119, E122, E123, E124 | 2. Parking brake switch B84 | 3. BCM M18, M20 (view with lower instrument panel LH removed) |
| 4. ECM E16 (view with ECM cover removed) | 5. Generator E205, E209 | 6. Daytime light relay 1 E103 |
| 7. Daytime light relay 2 E104 | 8. Combination switch (lighting and turn signal switch) M28 | 9. Combination meter M24 |

Component Description

INFOID:000000009484852

Part name	Description
BCM	<ul style="list-style-type: none"> • Receives combination switch (lighting and turn signal switch) inputs via BCM combination switch reading function. • Receives park brake applied input from the park brake switch. • Receives engine running status from the ECM via CAN communication.
IPDM E/R	Receives daytime light request from the BCM and activates the daytime light relay.
Combination switch (lighting and turn signal switch)	Outputs lighting requests to the BCM.

DRIVE SHAFT

< UNIT DISASSEMBLY AND ASSEMBLY >

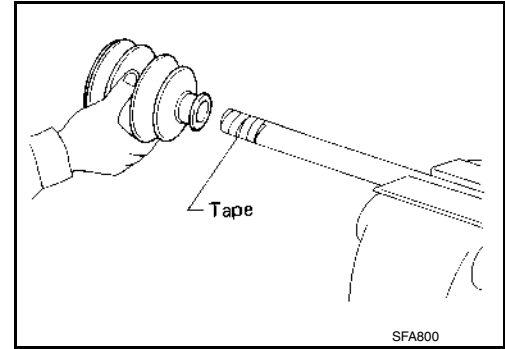
Final Drive Side

1. Wrap the serrated part of the shaft with tape. Install the boot band and boot to shaft.

CAUTION:

Do not reuse boot band and boot.

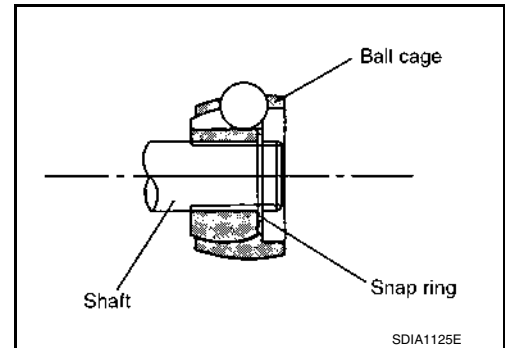
2. Remove the tape wound around the serrated part of the shaft.



3. Install the ball cage, steel ball, and inner race assembly on the shaft, and secure them using the snap ring.

CAUTION:

Do not reuse snap ring.

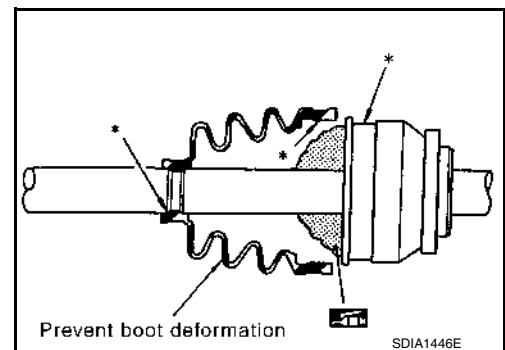


4. Insert the specified quantity of Genuine NISSAN Grease or equivalent, into the housing. Refer to [MA-12. "Fluids and Lubricants"](#).

Grease capacity : Refer to [FAX-15. "Drive Shaft"](#).

CAUTION:

If grease adheres to the boot mounting surface (indicated by * marks) on shaft and housing, boot may come off. Remove all grease from surfaces.



5. Install the stopper ring onto the housing.

CAUTION:

- Do not reuse stopper rings.
- Make sure that housing and stopper ring are fully engaged.

6. Install the boot securely into the grooves (indicated by * marks) as shown.

CAUTION:

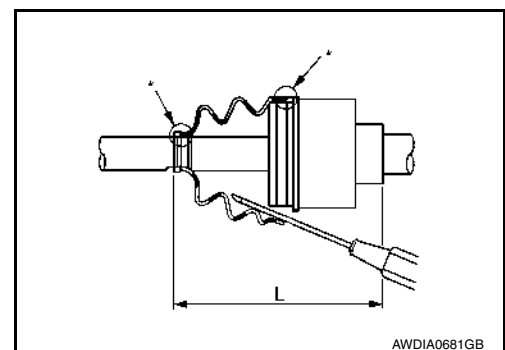
If there is grease on boot mounting surfaces (indicated by * marks) of shaft and housing, boot may come off. Remove all grease from surfaces.

7. Check that the boot installation length (L) is the length indicated below. Insert a suitable tool into large side of boot. Bleed air from boot to prevent boot deformation.

Boot installation length (L) : Refer to [FAX-15. "Drive Shaft"](#).

CAUTION:

- The boot may break if the boot installation length is less than the specified value.
- Do not touch the tip of the suitable tool to the inside of the boot.



PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000010209487

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

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

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000009483625

DETAILED FLOW

1. OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred) as much as possible when the customer brings the vehicle in.

>> GO TO 2

2. REPRODUCE THE MALFUNCTION INFORMATION

Check the malfunction on the vehicle that the customer describes.
Inspect the relation of the symptoms and the condition when the symptoms occur.

>> GO TO 3

3. IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"

Use "Symptom diagnosis" from the symptom inspection result in step 2 and then identify where to start performing the diagnosis based on possible causes and symptoms.

>> GO TO 4

4. IDENTIFY THE MALFUNCTIONING PARTS WITH "DTC/CIRCUIT DIAGNOSIS"

Perform the diagnosis with "DTC/Circuit diagnosis" of the applicable system.

>> GO TO 5

5. REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 6

6. FINAL CHECK

Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 2.

Are the malfunctions corrected?

YES >> Inspection End.

NO >> GO TO 3

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SQUEAK AND RATTLE TROUBLE DIAGNOSES

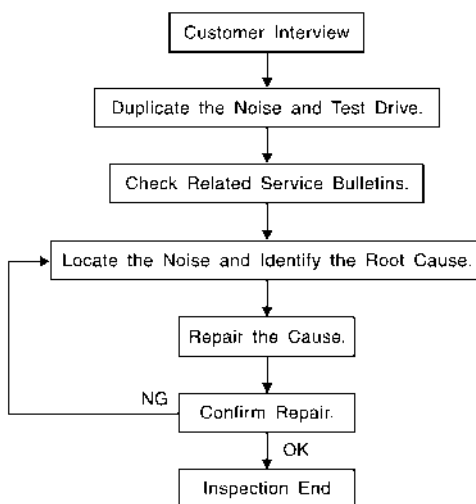
< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow

INFOID:000000010202693



SBT842

CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any customer's comments; refer to [SE-16, "Diagnostic Worksheet"](#). This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, be sure to diagnose and repair the noise that the customer is concerned about. This can be accomplished by test driving the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics are provided so the customer, service adviser and technician are all speaking the same language when defining the noise.
- Squeak —(Like tennis shoes on a clean floor)
Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces = higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping.
- Creak—(Like walking on an old wooden floor)
Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle—(Like shaking a baby rattle)
Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock —(Like a knock on a door)
Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick—(Like a clock second hand)
Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump—(Heavy, muffled knock noise)
Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz—(Like a bumble bee)
Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that you may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

DUPLICATE THE NOISE AND TEST DRIVE

STEERING COLUMN

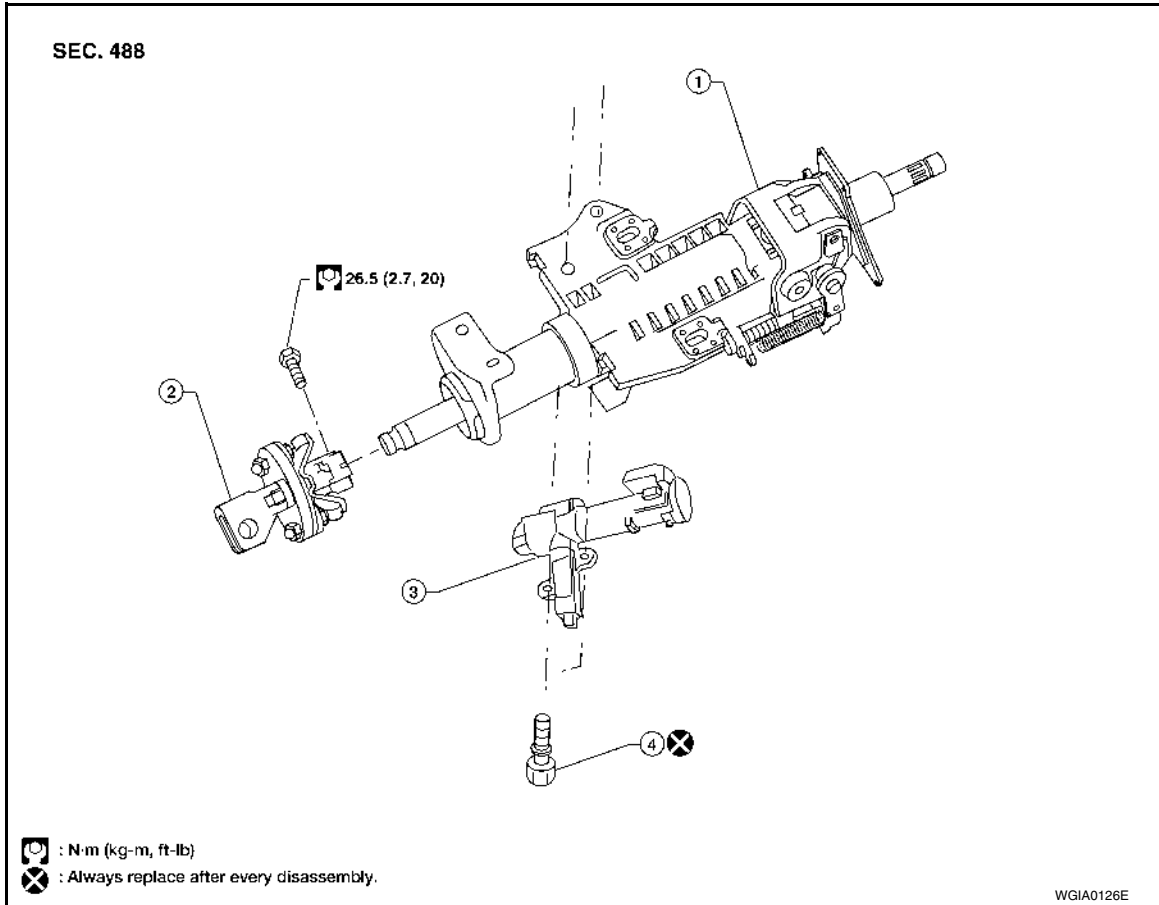
< UNIT DISASSEMBLY AND ASSEMBLY >

UNIT DISASSEMBLY AND ASSEMBLY

STEERING COLUMN

Disassembly and Assembly

INFOID:000000009483755



1. Steering column assembly
2. Upper joint
3. Ignition switch
4. Self-shear screw

DISASSEMBLY

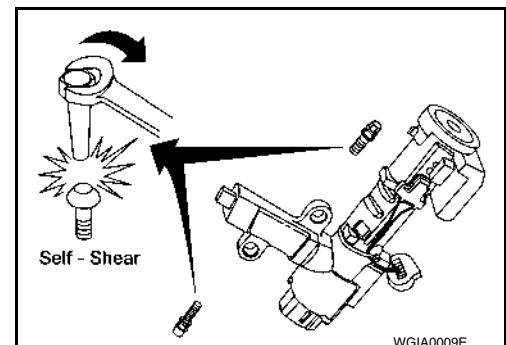
1. Remove the bolt from the upper joint, then remove the upper joint from the steering column assembly.
2. Remove the ignition switch tamper resistant self-shear screws, using a drill.
3. Remove the ignition switch from the steering column.

ASSEMBLY

Assembly is in the reverse order of disassembly.

CAUTION:

- Do not reuse the self-shear screws.
- Any time the ignition switch has been removed and installed, the keys must be re-registered in the BCM. Refer to CONSULT Immobilizer mode and follow the on-screen instructions.



P0735 5GR INCORRECT RATIO

< DTC/CIRCUIT DIAGNOSIS >

[5AT: RE5R05A]

P0735 5GR INCORRECT RATIO

Description

INFOID:000000009485475

This malfunction is detected when the A/T does not shift into 5GR position as instructed by TCM. This is not only caused by electrical malfunction (circuits open or shorted) but mechanical malfunction such as control valve sticking, improper solenoid valve operation.

On Board Diagnosis Logic

INFOID:000000009485476

- This is an OBD-II self-diagnostic item.
- Diagnostic trouble code "P0735" with CONSULT or 22nd judgment flicker without CONSULT is detected when TCM detects any inconsistency in the actual gear ratio.

Possible Cause

INFOID:000000009485477

- Input clutch solenoid valve
- Front brake solenoid valve
- Direct clutch solenoid valve
- High and low reverse clutch solenoid valve
- Each clutch
- Hydraulic control circuit

DTC Confirmation Procedure

INFOID:000000009485478

CAUTION:

Always drive vehicle at a safe speed.

NOTE:

If "DTC Confirmation Procedure" has been previously performed, always turn ignition switch OFF and wait at least 10 seconds before performing the next test.

After the repair, perform the following procedure to confirm the malfunction is eliminated.

WITH CONSULT

1. Start the engine and select "DATA MONITOR" mode for "TRANSMISSION" with CONSULT.
2. Make sure that "ATF TEMP 1" is within the following range.
ATF TEMP 1: 20°C – 180°C (68°F – 356°F)
If out of range, drive vehicle to warm ATF or stop engine to cool ATF.
3. Select "5TH GR FNCTN P0735" of "DTC & SRT CONFIRMATION" mode for "TRANSMISSION" with CONSULT.
4. Drive vehicle and maintain the following conditions.
SLCT LVR POSI: "D" position
GEAR: "5" position
ACCELE POSI: 0.6/8 or more
VEHICLE SPEED: 10 km/h (6 MPH) or more
ENGINE SPEED: INPUT SPEED – 50 rpm or more
INPUT SPEED: 300 rpm or more
5. Keep the current driving status for at least 5 consecutive seconds if CONSULT screen changes from "OUT OF CONDITION" to "TESTING".
CAUTION:
If "TESTING" does not appear on CONSULT for a long time, select "SELF-DIAG RESULTS". In case a 1st trip DTC other than P0735 is shown, refer to ["TM-103, "CONSULT Function \(TRANSMISSION\)"](#).
If "COMPLETED RESULT NG" is detected, go to ["TM-134, "Diagnosis Procedure"](#).
If "STOP VEHICLE" is detected, go to the following step.
6. Stop vehicle.
7. Drive vehicle in "D" position allowing it to shift from 1GR to 5GR and check shift timing and shift shock.
 - Touch "OK" to complete the inspection when normally shifted from the 1GR to 5GR.
 - Touch "NG" when an unusual shift shock, etc. occurs in spite of shifting from the 1GR to 5GR. Go to ["TM-225, "Check Before Engine Is Started"](#).
 - Perform ["TM-103, "CONSULT Function \(TRANSMISSION\)"](#) when not shifted from the 1GR to 5GR. (Neither "OK" nor "NG" are indicated.)

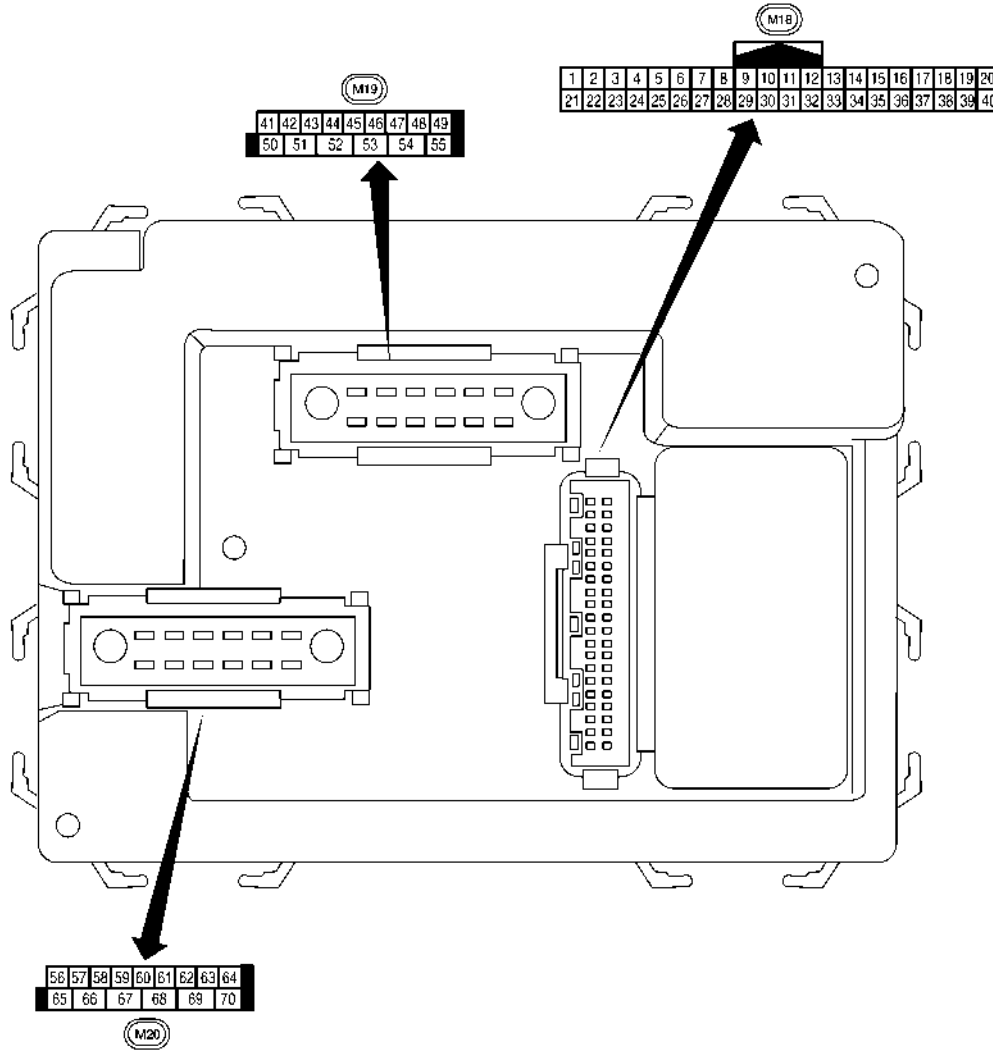
WITH GST

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal Layout

INFOID:000000010245058



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Physical Values

LIA2443E

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