# NISSAN NV200

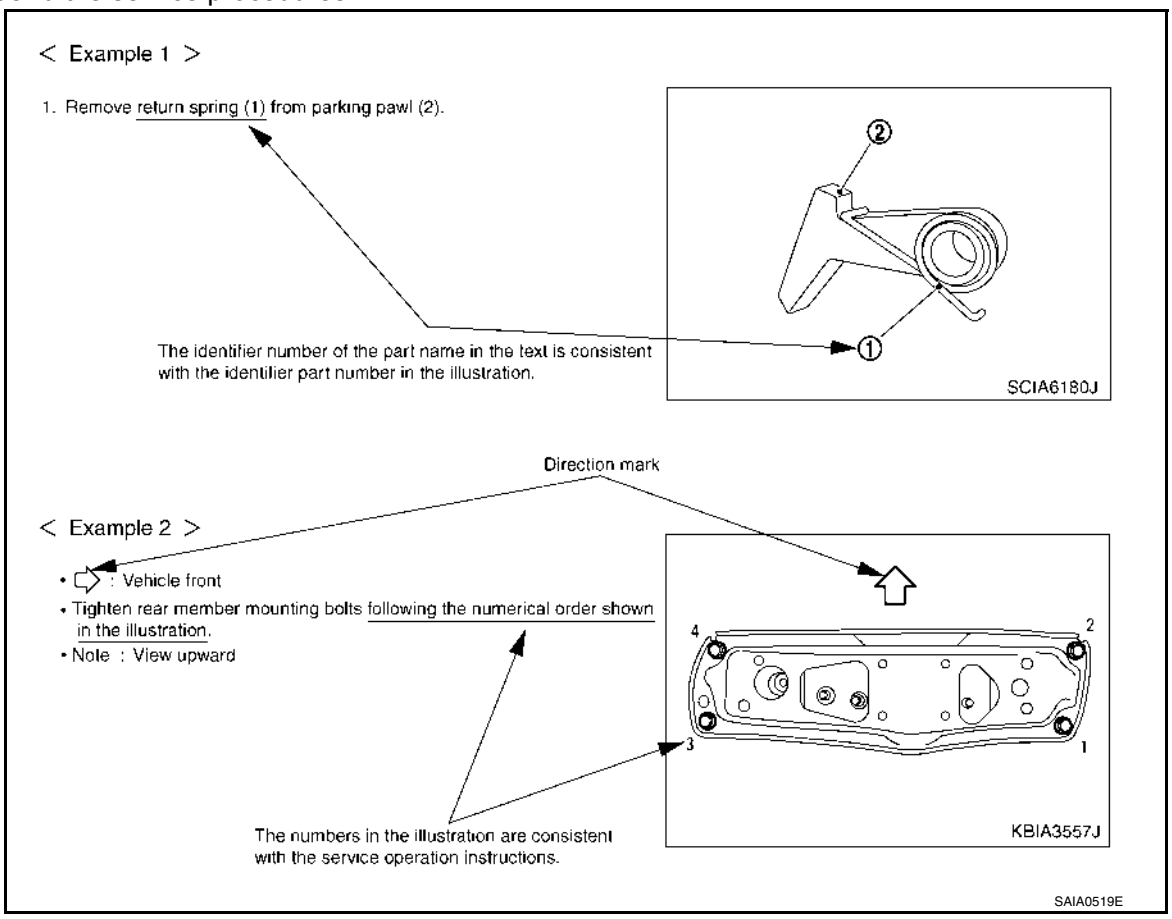
MODEL M20 SERIES

## QUICK REFERENCE INDEX

## Relation between Illustrations and Descriptions

INFOID:0000000012994678

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




## Components

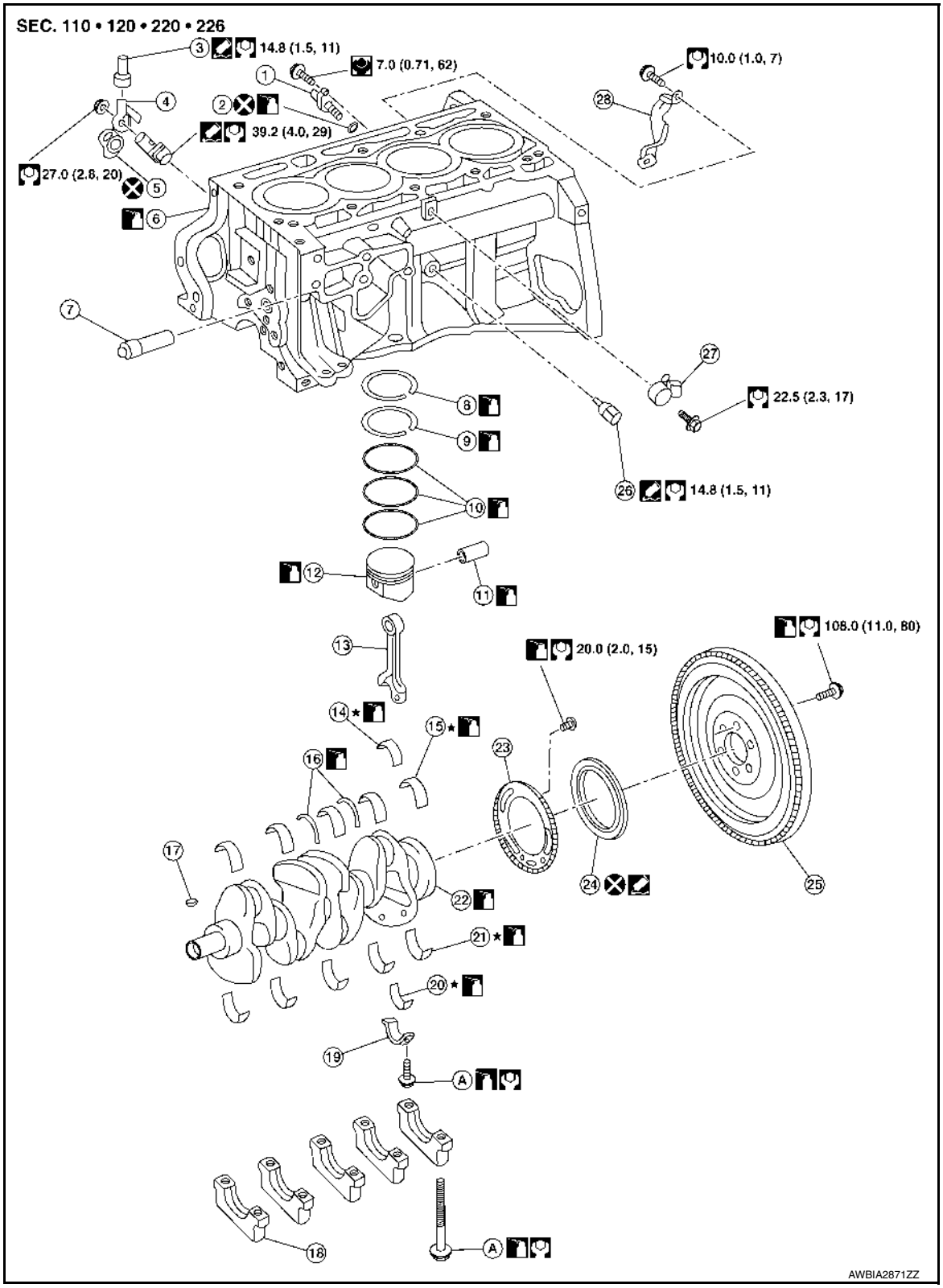
INFOID:0000000012994679

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

# CYLINDER BLOCK

## Exploded View

INFOID:0000000012995010




1. Crankshaft position sensor (POS)
2. O-ring
3. Oil pressure sensor
4. Connector
5. gasket
6. Cylinder block
7. Block heater (for Canada)
8. Top ring
9. Second ring

WORKSHEET SAMPLE

| | | | |
|---|---|---|---|
| Customer name MR/MS | | Model & Year | VIN |
| Engine # | | Trans. | Mileage |
| Incident Date | | Manuf. Date | In Service Date |
| Fuel and fuel filler cap | | ☐ Vehicle ran out of fuel causing misfire<br>☐ Fuel filler cap was left off or incorrectly screwed on. | |
| Symptoms | ☐ Startability | ☐ Impossible to start ☐ No combustion ☐ Partial combustion<br>☐ Partial combustion affected by throttle position<br>☐ Partial combustion NOT affected by throttle position<br>☐ Possible but hard to start ☐ Others [ ] | |
| | ☐ Idling | ☐ No fast idle ☐ Unstable ☐ High idle ☐ Low idle<br>☐ Others [ ] | |
| | ☐ Driveability | ☐ Stumble ☐ Surge ☐ Knock ☐ Lack of power<br>☐ Intake backfire ☐ Exhaust backfire<br>☐ Others [ ] | |
| | ☐ Engine stall | ☐ At the time of start ☐ While idling<br>☐ While accelerating ☐ While decelerating<br>☐ Just after stopping ☐ While loading | |
| Incident occurrence | | ☐ Just after delivery ☐ Recently<br>☐ In the morning ☐ At night ☐ In the daytime | |
| Frequency | | ☐ All the time ☐ Under certain conditions ☐ Sometimes | |
| Weather conditions | | ☐ Not affected | |
| | Weather | ☐ Fine ☐ Raining ☐ Snowing ☐ Others [ ] | |
| | Temperature | ☐ Hot ☐ Warm ☐ Cool ☐ Cold ☐ Humid °F | |
| Engine conditions | | ☐ Cold ☐ During warm-up ☐ After warm-up<br>Engine speed 0 2,000 4,000 6,000 8,000 rpm | |
| Road conditions | | ☐ In town ☐ In suburbs ☐ Highway ☐ Off road (up/down) | |
| Driving conditions | | ☐ Not affected<br>☐ At starting ☐ While idling ☐ At racing<br>☐ While accelerating ☐ While cruising<br>☐ While decelerating ☐ While turning (RH/LH)<br>Vehicle speed 0 10 20 30 40 50 60 MPH | |
| Malfunction indicator lamp | | ☐ Turned on ☐ Not turned on | |

MTBL0017

Follow the procedure “With CONSULT” above.

Is 1st trip DTC is detected?

YES >> Proceed to EC-196, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000012994040

### 1.CHECK AIR FUEL RATIO (A/F) SENSOR 1 POWER SUPPLY

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

| + | | – | Voltage |
|---|---|---|---|
| A/F sensor 1 | | | |
| Connector | Terminal | | |
| F12 | 4 | Ground | Battery voltage |

Is the inspection result normal?

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

### 2.CHECK AIR FUEL RATIO (A/F) SENSOR 1 POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R harness connector.
3. Check the continuity between A/F sensor 1 harness connector and IPDM E/R harness connector.

| + | | – | | Continuity |
|---|---|---|---|---|
| A/F sensor 1 | | IPDM E/R | | |
| Connector | Terminal | Connector | Terminal | |
| F12 | 4 | E43 | 17 | Existed |

4. Also check harness for short to ground.

Is the inspection result normal?

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

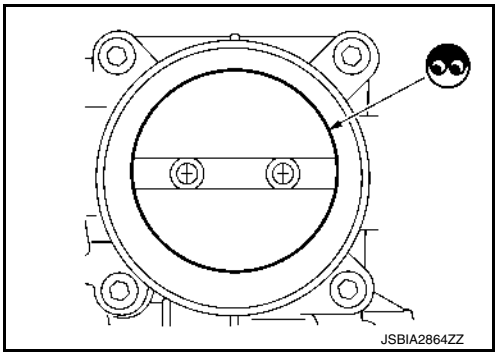
### 3.CHECK A/F SENSOR 1 INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect ECM harness connector.
3. Check the continuity between A/F sensor 1 harness connector and ECM harness connector.

| + | | – | | Continuity |
|---|---|---|---|---|
| A/F sensor 1 | | ECM | | |
| Connector | Terminal | Connector | Terminal | |
| F12 | 1 | F11 | 49 | Existed |
| | 2 | | 53 | |

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

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




Is the inspection result normal?

YES >> GO TO 6.
NO >> Remove the foreign matter and clean the electric throttle control actuator inside, then perform throttle valve closed position learning. Refer to EC-123, "Description".

## 6. CHECK THROTTLE CONTROL MOTOR

Check the throttle control motor. Refer to EC-380, "Component Inspection (Throttle Control Motor)".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".
NO >> Replace electric throttle control actuator. Refer to EM-26, "Removal and Installation".

# Component Inspection (Throttle Control Motor)

INFOID:0000000012994213

## 1. CHECK THROTTLE CONTROL MOTOR

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

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

Is the inspection result normal?

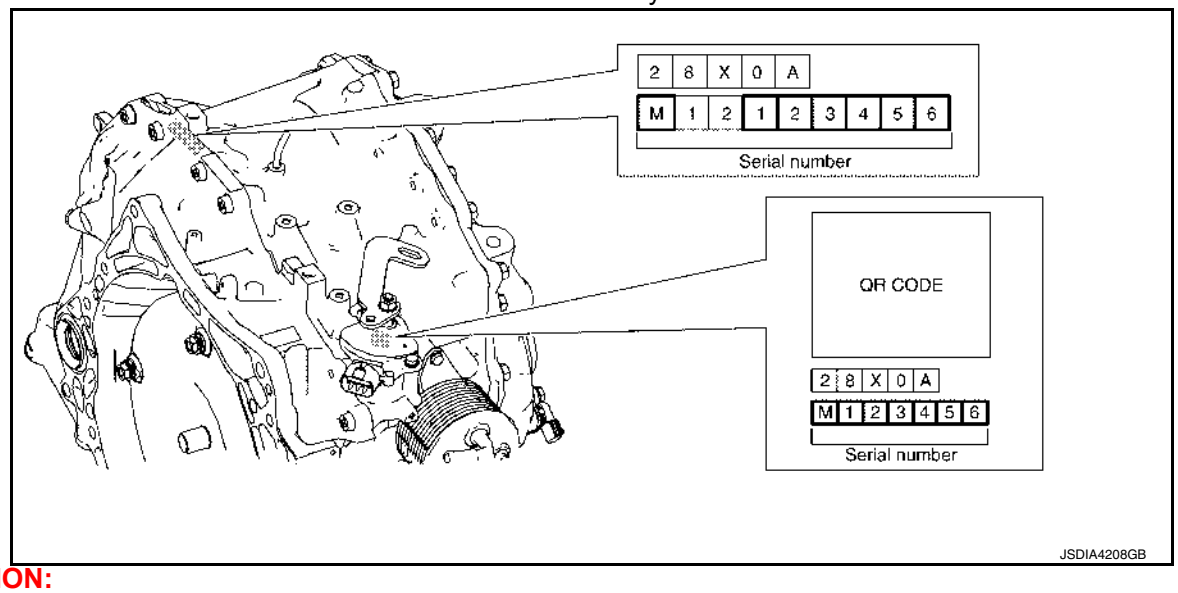
YES >> INSPECTION END
NO >> Replace electric throttle control actuator. Refer to EM-26, "Removal and Installation".

## INSTALLATION

Installation is in the reverse order of removal.

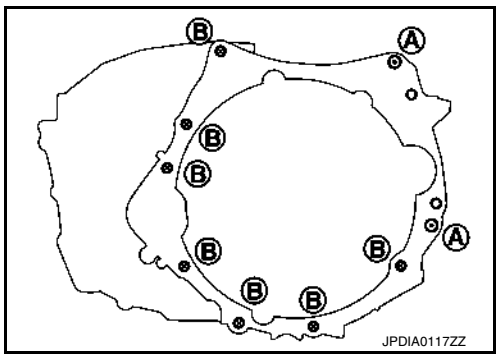
**NOTE:**

Write down the serial number of the new transaxle assembly.




**CAUTION:**

- **When replacing an engine or transaxle you must make sure any dowels are installed correctly during re-assembly.**
- **Improper alignment caused by missing dowels may cause vibration, oil leaks or breakage of drivetrain components.**
- **Do not reuse O-rings or copper sealing washers.**
- **When turning crankshaft, turn it clockwise as viewed from the front of the engine.**
- **When tightening the nuts for the torque converter while securing the crankshaft pulley bolt, be sure to confirm the tightening torque of the crankshaft pulley bolt. Refer to EM-55, "Removal and Installation".**
- **After converter is installed to drive plate, rotate crankshaft several turns to check that CVT rotates freely without binding.**
- **When installing the CVT to the engine, align the matching mark on the drive plate with the matching mark on the torque converter.**
- **When installing the transaxle assembly to the engine assembly, attach the fixing bolts in accordance with the following.**




| Insertion direction | Transaxle to engine | Engine to transaxle |
|---|---|---|
| Bolt No. | (A) | (B) |
| Number of bolts | 2 | 7 |
| Bolt length mm (in) | 55 (2.17) | 50.5 (1.99) |
| Tightening torque N-m (kg-m, ft-lb) | 62(6.3, 46) | |

- When installing the drive plate to torque converter nuts, tighten them temporarily. then tighten the nuts to the specified torque.
- Perform "ADDITIONAL SERVICE WHEN REPLACE TRANSAXLE ASSEMBLY". Refer to TM-78, "Description".

# POWER SUPPLY AND GROUND CIRCUIT

## Diagnosis Procedure

INFOID:0000000012995570

### 1.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) IGNITION POWER SUPPLY (1)

1. Turn the ignition switch OFF.
2. Disconnect ABS actuator and electric unit (control unit) harness connector.
3. Check the voltage between ABS actuator and electric unit (control unit) harness connector and ground.

| ABS actuator and electric unit (control unit) | | — | Voltage (Approx.) |
|---|---|---|---|
| Connector | Terminal | | |
| E33 | 32 | Ground | 0 V |

4. Turn the ignition switch ON
   **NOTE:**
   Start the engine.
5. Check the voltage between ABS actuator and electric unit (control unit) harness connector and ground.

| ABS actuator and electric unit (control unit) | | — | Voltage (Approx.) |
|---|---|---|---|
| Connector | Terminal | | |
| E33 | 32 | Ground | Battery voltage |

Is the inspection result normal?

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

### 2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) IGNITION POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.
2. Check the 10A fuse (45).
3. Disconnect IPDM E/R harness connector.
4. Check the continuity between ABS actuator and electric unit (control unit) harness connector and IPDM E/R.

| ABS actuator and electric unit (control unit) | | IPDM E/R | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E33 | 32 | E43 | 16 | Yes |

5. Check the continuity between ABS actuator and electric unit (control unit) harness connector and ground.

| ABS actuator and electric unit (control unit) | | — | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E33 | 32 | Ground | No |

Is the inspection result normal?

YES >> Perform trouble diagnosis for ignition power supply.
NO >> Repair / replace harness, connector, or fuse.

### 3.CHECK MOTOR AND MOTOR RELAY POWER SUPPLY

1. Turn the ignition switch OFF.
2. Check the voltage between ABS actuator and electric unit (control unit) harness connector and ground.

| ABS actuator and electric unit (control unit) | | — | Voltage (Approx.) |
|---|---|---|---|
| Connector | Terminal | | |
| E33 | 1 | Ground | Battery voltage |

3. Turn the ignition switch ON.
   **NOTE:**

# B1148 CURTAIN AIR BAG MODULE RH

## DTC Logic

INFOID:0000000012995310

### DTC DETECTION LOGIC

| DTC | Display contents of CONSULT | DTC detecting condition | Repair order |
|---|---|---|---|
| B1148 | CURTAIN MODULE RH [SHORT] | Curtain air bag module RH circuits are shorted to each other. | 1. Visually check the wiring harness connection.<br>2. Replace the harness if it has visible damage.<br>3. Replace the air bag diagnosis sensor unit.<br>4. Replace the RH side curtain air bag module.<br>5. Replace the related harness. |

### DTC CONFIRMATION PROCEDURE (With CONSULT)

#### 1.CHECK SELF-DIAG RESULT

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

Is the DTC detected?

YES (Current DTC)>>Refer to SRC-135, "Diagnosis Procedure".
YES (Past DTC)>>GO TO 2.
NO >> Inspection End.

#### 2.ERASE SELF-DIAG RESULT

Erase the DTC using CONSULT.

Can the DTC be erased?

YES >> Inspection End.
NO >> Refer to SRC-135, "Diagnosis Procedure".

### DTC CONFIRMATION PROCEDURE (Without CONSULT)

#### 1.CHECK SELF-DIAG RESULT

1. Turn ignition switch ON.
2. Check the air bag warning lamp status. Refer to SRC-17, "Trouble Diagnosis without CONSULT".

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

Is the DTC detected?

YES >> Refer to SRC-135, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012995311

#### 1.HARNESS CONNECTOR

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

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

Is the inspection result normal?

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

#### 2.CONFIRM DTC

2. Check voltage between BCM harness connector and ground.

| (+) | | (–) | Condition | | Voltage (Approx.) |
|---|---|---|---|---|---|
| BCM | | | | | |
| Connector | Terminal | | | | |
| M19 | 54 | Ground | Door lock and unlock switch | Lock | 12 V |
| | 41 | | | Unlock | |

Is the inspection result normal?

YES >> Check for internal short of each door lock actuator.
NO >> Replace BCM. Refer to BCS-50, "Removal and Installation".

# PASSENGER SIDE

## PASSENGER SIDE : Component Function Check

INFOID:0000000012996397

### 1.CHECK FUNCTION

1. Select DOOR LOCK of BCM using CONSULT.
2. Select DOOR LOCK in ACTIVE TEST mode.
3. Touch ALL LCK or ALL ULK to check that it works normally.

Is the inspection result normal?

YES >> Door lock actuator is OK.
NO >> Refer to DLK-51, "PASSENGER SIDE : Diagnosis Procedure".

## PASSENGER SIDE : Diagnosis Procedure

INFOID:0000000012996398

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

### 1.CHECK DOOR LOCK ACTUATOR INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front door lock actuator RH connector.
3. Check voltage between front door lock actuator RH harness connector and ground.

| (+) | | (–) | Condition | | Voltage (Approx.) |
|---|---|---|---|---|---|
| Front door lock actuator RH | | | | | |
| Connector | Terminal | | | | |
| D114 | 1 | Ground | Door lock and unlock switch | Unlock | 12 V |
| | 2 | | | Lock | |

Is the inspection result normal?

YES >> Replace front door lock actuator RH.
NO >> GO TO 2.

### 2.CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect BCM connector and all door lock actuator connectors.
2. Check continuity between BCM harness connector and front door lock actuator RH harness connector.

| BCM | | Front door lock actuator RH | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M19 | 54 | D114 | 2 | Yes |
| | 53 | | 1 | |

3. Check continuity between BCM harness connector and ground.

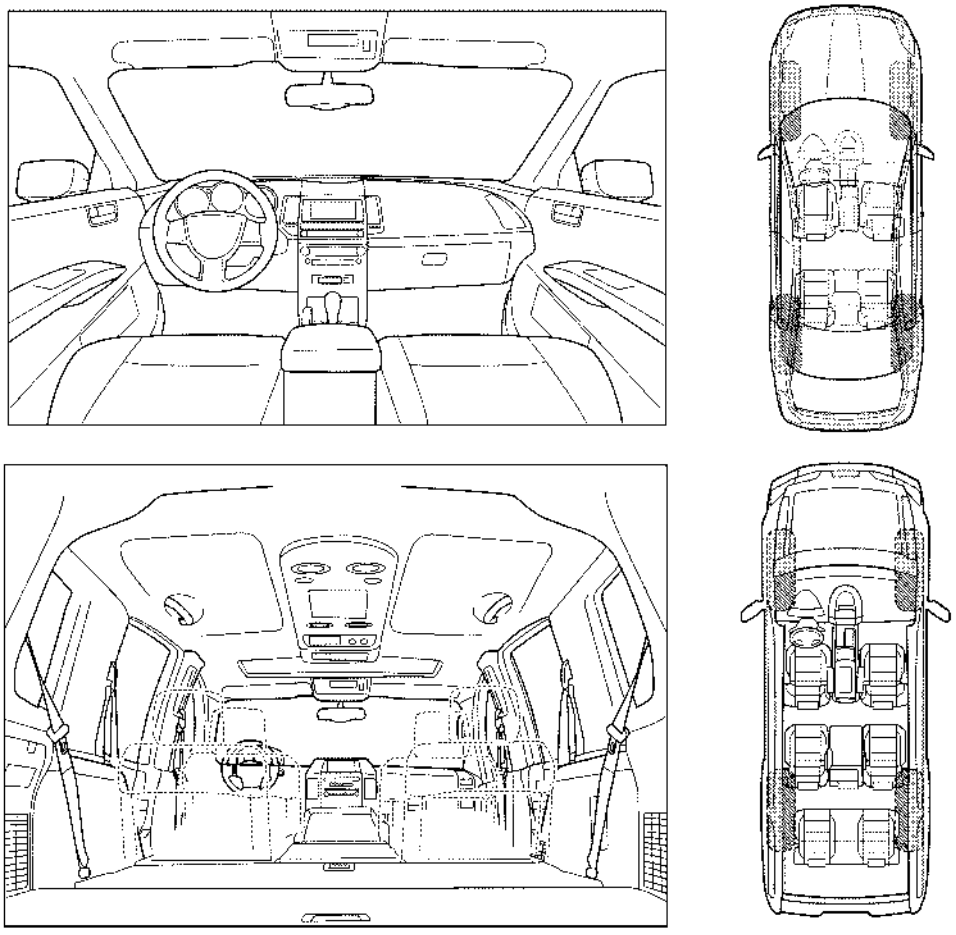
## Diagnostic Worksheet

INFOID:0000000012995979

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.



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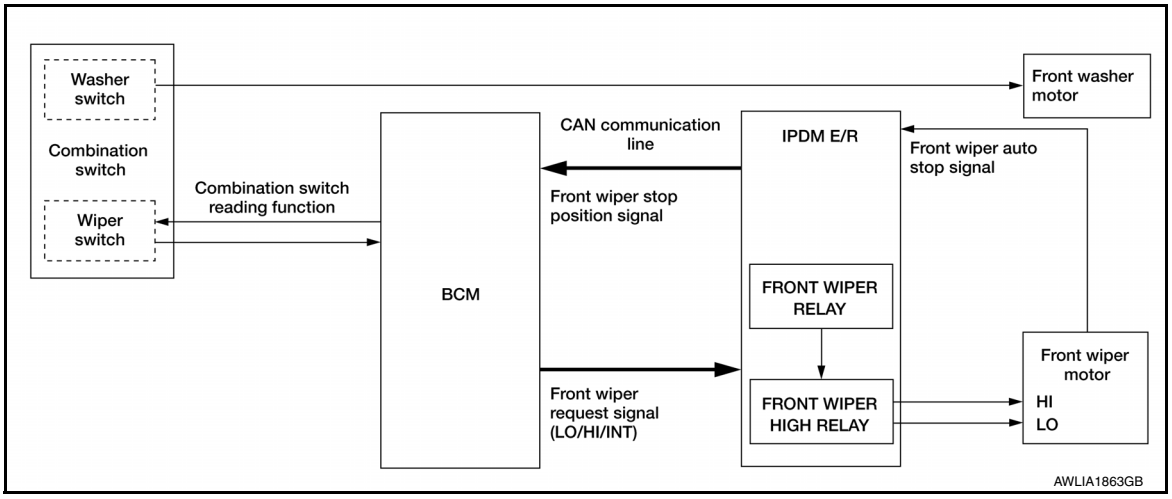
# SYSTEM

## System Diagram

INFOID:0000000012995827




## System Description

INFOID:0000000012995828

### FRONT WIPER CONTROL (BASIC)

1. BCM detects the combination switch position by the combination switch reading function.
2. BCM transmits the front wiper request signal to the IPDM E/R using CAN communication.
3. IPDM E/R controls the integrated front wiper relay and front wiper high relay based on the status of the front wiper request signal.
4. IPDM E/R provides power to operate the front wiper motor.

### LOW SPEED OPERATION

1. Ignition switch ON.
2. Front wiper switch in LO or MIST position.
3. BCM reads the combination switch position and transmits the front wiper request signal (LO) to IPDM E/R using CAN communication.
4. IPDM E/R turns ON the front wiper relay.

### HIGH SPEED OPERATION

1. Ignition switch ON.
2. Front wiper switch in HI.
3. BCM reads the combination switch position and transmits the front wiper request signal (HI) to IPDM E/R using CAN communication.
4. IPDM E/R turns ON the front wiper relay and the front wiper high relay.

### INTERMITTENT OPERATION

1. Ignition switch ON.
2. Front wiper switch INT.
3. BCM reads the combination switch position. BCM calculates the delay interval based on the table below and then transmits the front wiper request signal (INT) to IPDM E/R using CAN communication.
4. IPDM E/R turns ON the front wiper relay only once.
5. BCM detects stop position of the front wiper motor based on the front wiper stop position signal received from the IPDM E/R.
6. BCM transmits the front wiper request signal (INT) again after the delay interval.

# REMOVAL AND INSTALLATION

## BCM (BODY CONTROL MODULE)

### Removal and Installation

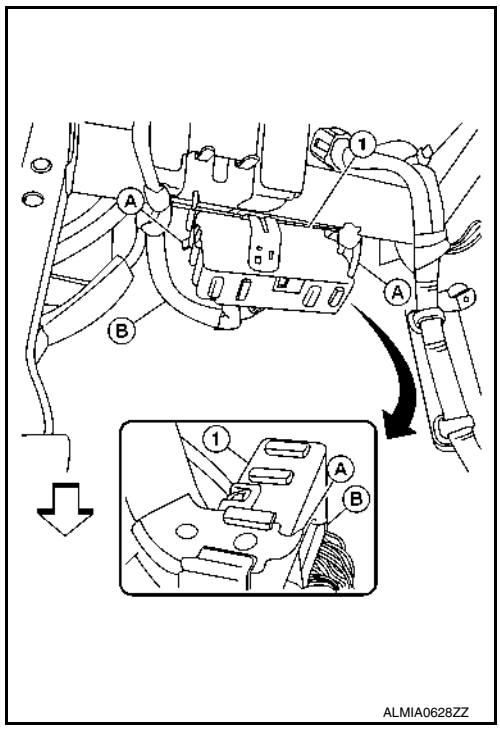
INFOID:0000000012995105

REMOVAL

**CAUTION:**

**Before replacing BCM, perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to BCS-40, "CONFIGURATION (BCM) : Description".**

1. Disconnect the negative battery terminal. Refer to PG-67, "Removal and Installation (Battery)".
2. Remove the glove box assembly. Refer to IP-25, "Removal and Installation".
3. Release the tabs (A) and remove the BCM (1) from the steering member.
   **NOTE:**
   Shown with low tire pressure warning control unit removed for clarity.
   ⇦: Front
4. Disconnect the harness connectors (B) from the BCM.




INSTALLATION

Installation is in the reverse order of removal.

**CAUTION:**

- **Perform "CONFIGURATION (BCM)" when replacing BCM. Refer to BCS-40, "CONFIGURATION (BCM) : Description"**
- **Be sure to perform the system initialization (NATS) when replacing BCM. Refer to BCS-39, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description".**
- **When replacing BCM, if new BCM does not come with keyfobs attached, all existing keyfobs must be re-registered.**

BATTERY POWER SUPPLY CONNECTORS

| Connector No. | M3 |
|---|---|
| Connector Name | FUSE BLOCK (J/B) |
| Connector Color | WHITE |

H.S.

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | W | – |

| Connector No. | M78 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | BLACK |

H.S.

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | W | – |

| Connector No. | E9 |
|---|---|
| Connector Name | FUSIBLE LINK BOX (BATTERY) |
| Connector Color | GRAY |

H.S.

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | G | – |
| 2 | W | – |

| Connector No. | E10 |
|---|---|
| Connector Name | FUSIBLE LINK BOX (BATTERY) |
| Connector Color | BROWN |

H.S.

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | W | – |
| 4 | R | – |

| Connector No. | E11 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | BLACK |

H.S.

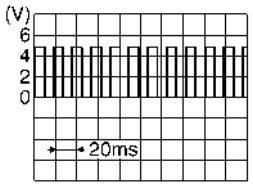
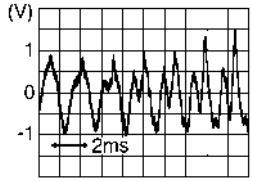
| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | W | – |

| Connector No. | E42 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BLACK |

H.S.

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | R | F/L USM |
| 2 | G | F/L MAIN |

ABMIA6796GB

| Terminal (Wire color) | | Description | | Condition | | Reference value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | Ignition switch | Operation | |
| 16 (Y) | 15 (B) | Steering switch signal B | Input | ON | Press VOL– switch | 0 V |
| | | | | | Press VOL+ switch | 0.7 V |
| | | | | | Press ◠ switch | 1.3 V |
| | | | | | Except for above | 3.3 V |
| 18 (W) | Ground | Speed signal | Input | ON | When vehicle speed is approx 25 mph (40 km/hr) |  SKIA6649J |
| 19 (R) | Ground | Battery power supply | Input | OFF | — | Battery voltage |
| 25 (SB) | – | M-CAN H (terminated) | – | – | – | – |
| 26 (SB) | – | M-CAN H | – | – | – | – |
| 27 (LG) | – | M-CAN L | – | – | – | – |
| 32 (R) | Ground | Telephone ON | Output | ON | – | – |
| 33 (LG) | – | M-CAN L (terminated) | – | – | – | – |
| 34 (B) | 35 (W) | Tel Voice signal | Input | ON | With Bluetooth® transmitting tel-voice signals to the audio unit |  SKIB3609E |
| 36 | – | Shield | – | – | – | – |
| 37 (B) | Ground | Antenna amp. ON | Output | ON | — | Battery voltage |
| 38 (B) | Ground | Antenna signal | Input | ON | — | 5.0 V |