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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

WorkFlow

INFOID:000000009162890

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 "COMPONENT DIAGNOSIS"

Perform the diagnosis with "Component 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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# POWER SEAT FOR DRIVER SIDE

< SYSTEM DESCRIPTION >

## SYSTEM DESCRIPTION

### POWER SEAT FOR DRIVER SIDE

#### System Description

INFOID:000000009162891

#### SLIDING OPERATION

While operating the sliding switch located in power seat switch, sliding motor operates and makes possible the seat forward and backward position adjustment.

#### RECLINING OPERATION

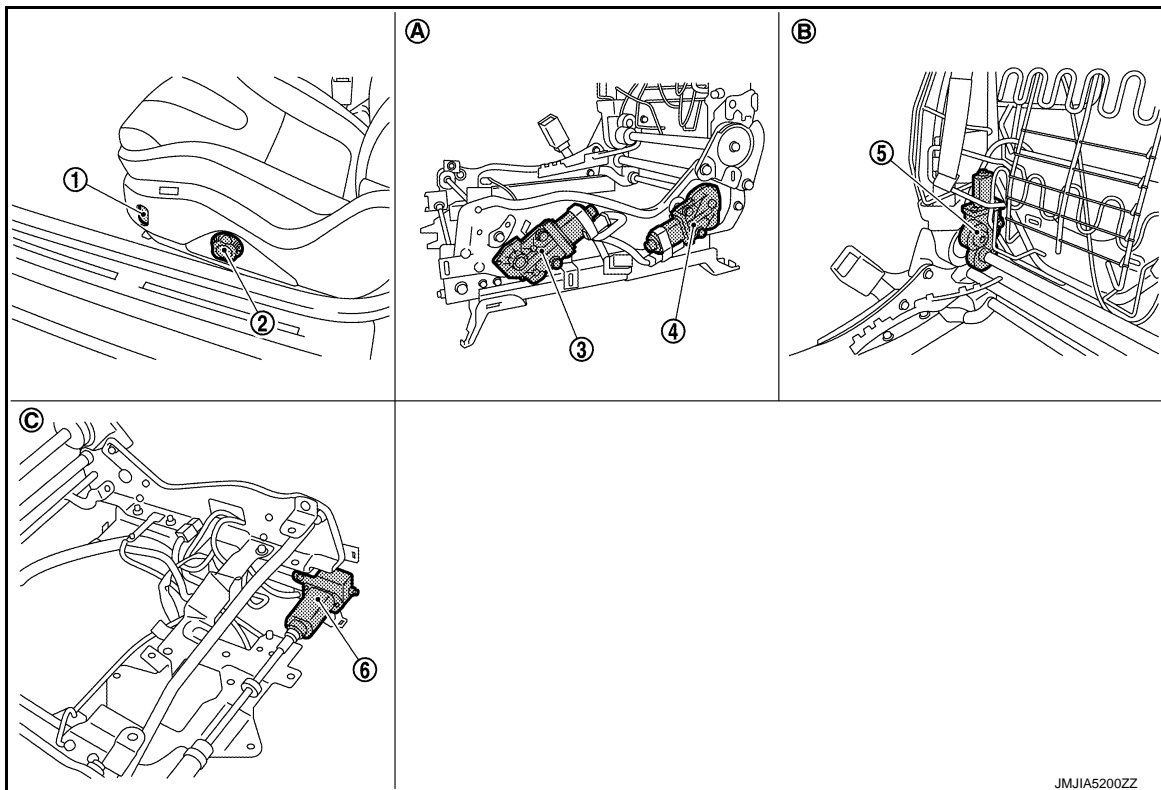
While operating the reclining switch located in power seat switch, reclining motor operates and makes possible the seat back forward and backward position adjustment.

#### LIFTING OPERATION

- While operating the lifting switch located in power seat switch, lifting motor operates and makes possible the rear portion of seat cushion up and down position adjustment.
- Thigh support motor is activated and the front portion of seat cushion can be adjusted upward or downward, while thigh support switch being operated.

#### Component Parts Location

INFOID:000000009162892



- |   |                                    |                          |
|---|------------------------------------|--------------------------|
| 1. Thigh support switch                           | 2. Power seat switch (driver side) | 3. Thigh support motor   |
| 4. Lifting motor (rear)                           | 5. Reclining motor                 | 6. Sliding motor         |
| A. Behind the seat cushion outer finisher outside | B. Built in seatback               | C. Built in seat cushion |

#### Component Description

INFOID:000000009162893

Item	Function
Power seat switch	Built-in reclining switch, sliding switch and lifting switch, controls the power supplied to each motor.
Thigh support switch	Detect the operation of thigh support motor.
Lifting motor	Operates seat lift up and down.

## POWER SEAT FOR DRIVER SIDE

### < SYSTEM DESCRIPTION >

Item	Function
Reclining motor	With the power supplied to power seat switch, operates the forward and backward of seat back.
Sliding motor	With the power supplied to power seat switch, operates the forward and backward slide of seat.
Thigh support motor	Operates the front portion of seat cushion up and down.

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# POWER SEAT FOR PASSENGER SIDE

< SYSTEM DESCRIPTION >

## POWER SEAT FOR PASSENGER SIDE

### System Description

INFOID:000000009162894

#### SLIDING OPERATION

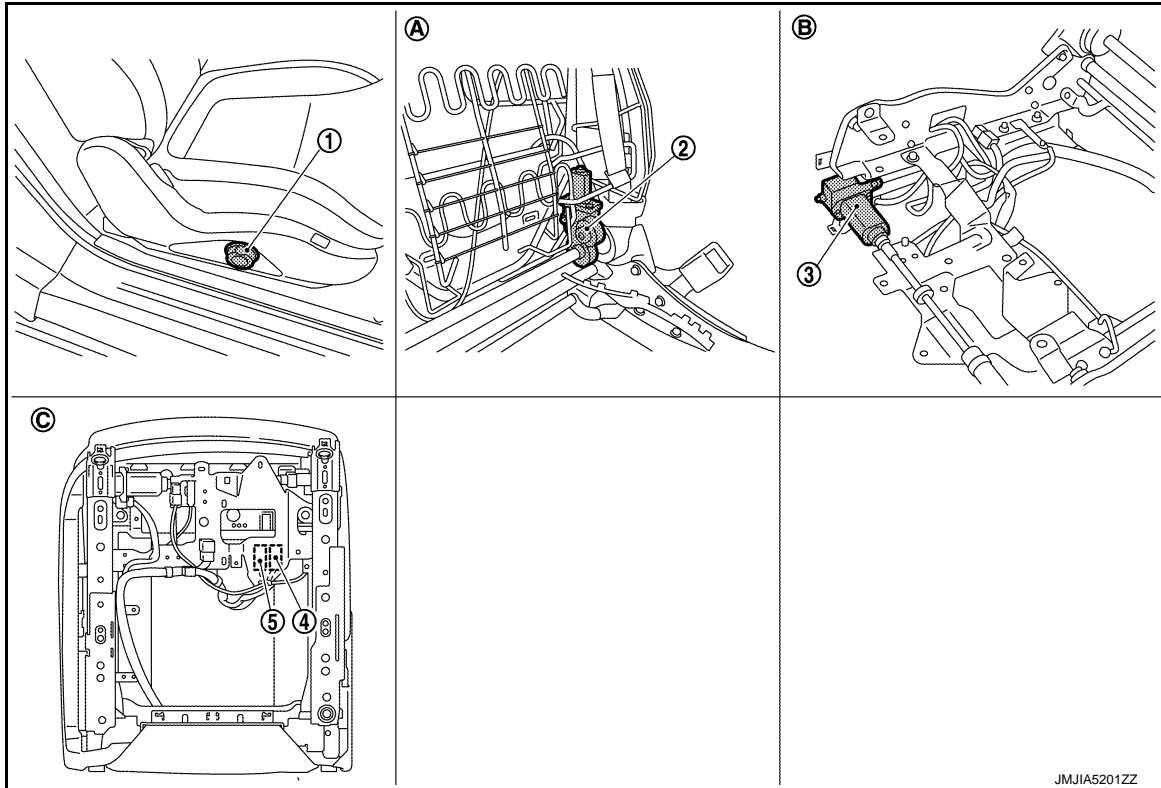
- While operating the sliding switch located in power seat switch, sliding motor operates and makes possible the seat forward and backward position adjustment.

#### RECLINING OPERATION

While operating the reclining switch located in power seat switch, reclining motor operates and makes possible the seatback forward and backward position adjustment.

### Component Parts Location

INFOID:000000009162895



- |                             |                            |                              |
|-----------------------------|----------------------------|------------------------------|
| 1. Power seat switch        | 2. Reclining motor         | 3. Sliding motor             |
| 4. Sliding relay (backward) | 5. Sliding relay (forward) |                              |
| A. Built in seatback        | B. Built in seat cushion   | C. Back side of seat cushion |

### Component Description

INFOID:000000009162896

Item	Function
Power seat switch	Built-in reclining switch and sliding switch controls the power supplied to each motor.
Sliding switch	Detect the operation of sliding motor.
Reclining motor	With the power supplied to power seat switch, operates the forward and backward of seatback.
Sliding motor	With the power supplied to power seat switch, operates the forward and backward slide of seat.

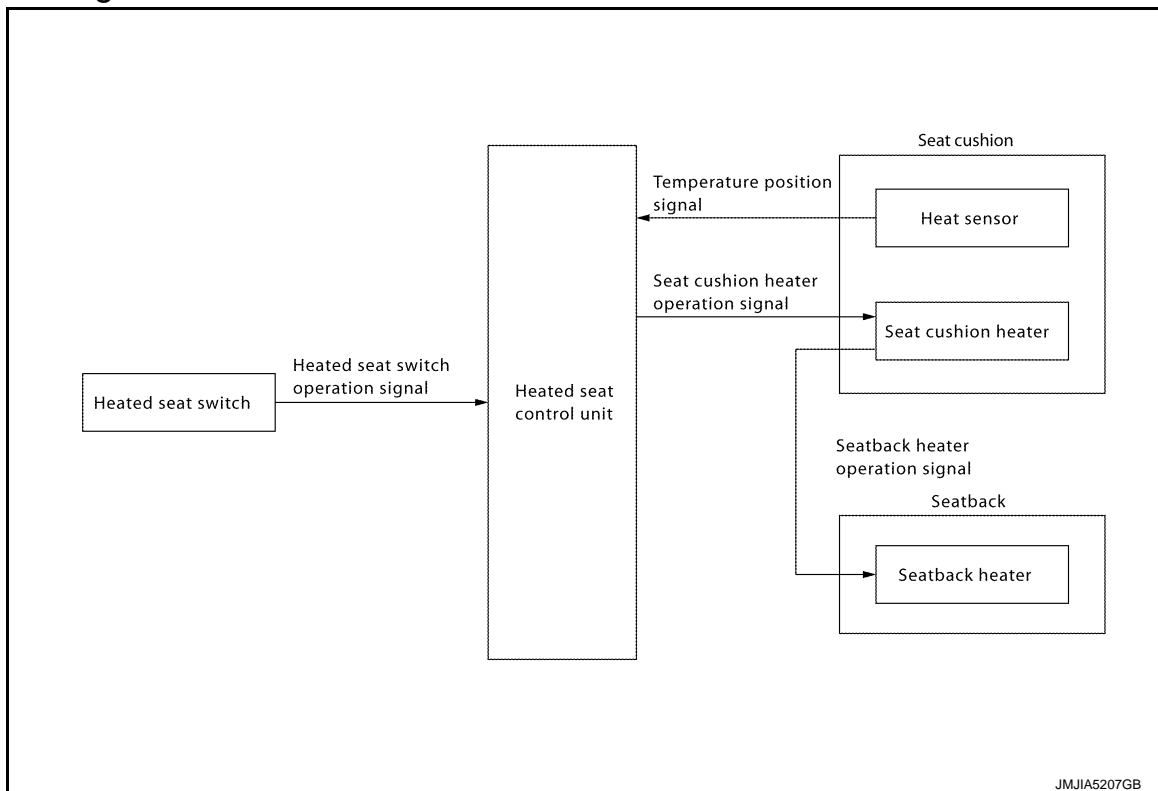
# HEATED SEAT (DRIVER SIDE)

< SYSTEM DESCRIPTION >

## HEATED SEAT (DRIVER SIDE)

### System Diagram

INFOID:000000009162897



### System Description

INFOID:000000009162898

- Heated seat is activated by heated seat switch while ignition switch is ON, and is equipped with the function to warm seat cushion and seatback.
- Heated seat is equipped with the LO/HI temperature adjustment function that adjusts temperature by operating heated seat switch to the optimal position.

### OPERATION DESCRIPTION

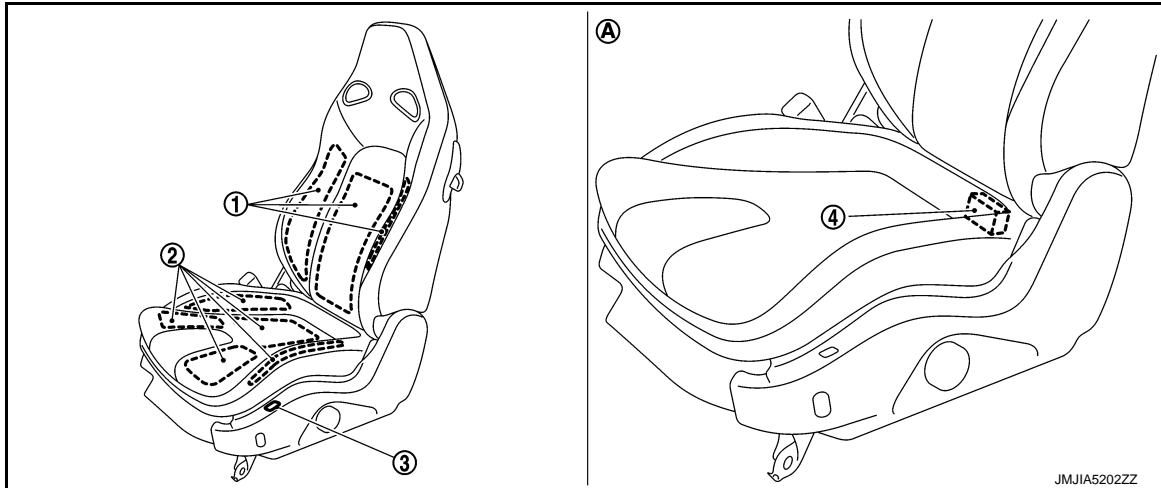
- When operating heated seat switch to either position of LO/HI while ignition switch is ON, indicator illuminates, heated seat control unit supplies power supply to heater unit, and warms seat cushion and seatback.
- Heat sensor that is built in seat cushion heater detects seat cushion heater temperature and outputs to heated seat control unit.
- Heated seat control unit monitors the heated seat switch position and heater sensor temperature, and interrupts power supply to heater unit when the heat sensor temperature reaches preset temperature.

# HEATED SEAT (DRIVER SIDE)

< SYSTEM DESCRIPTION >

## Component Parts Location

INFOID:000000009162899



- 1. seatback heater
- 2. Seat cushion heater
- 3. Heated seat switch
- 4. Heated seat control unit
- A. Back side of seat cushion

## Component Description

INFOID:000000009162900

Item	Function
Heated seat control unit	<ul style="list-style-type: none"> <li>Activates seat cushion heater and seatback heater via heated seat switch signal.</li> <li>Controls heated seat system.</li> </ul>
Heated seat switch	<ul style="list-style-type: none"> <li>Supplies power supply to each heater.</li> <li>Equips indicator that indicates the operating condition.</li> <li>Changes the number of activated heaters depending on the HI or LO switch position.</li> </ul>
Heat sensor	Outputs seat cushion temperature to heated seat control unit
Seat cushion heater	Built in seatback and is activated by power supply from heated seat switch.
Seatback heater	Built in seatback and is activated by power supply from heated seat switch.



HEATED SEAT (PASSENGER SIDE)

< SYSTEM DESCRIPTION >

HEATED SEAT (PASSENGER SIDE)

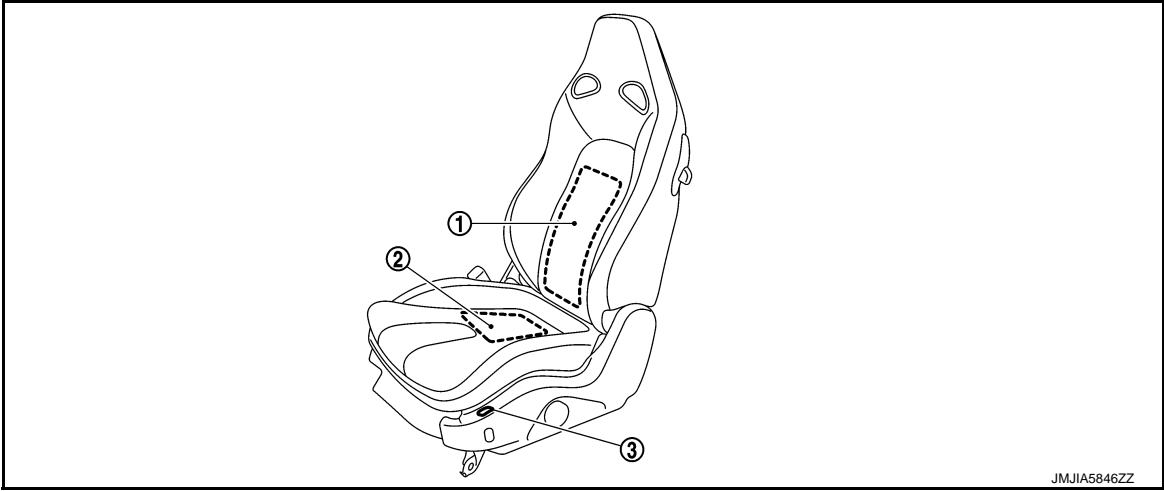
System Description

INFOID:000000009162901

- By turning seat heated switch ON, seat cushion heater and seat back heater are activated.
- By switching seat switch to HI or LO, the number of activated heaters changes and seat warming seed is adjusted.

Component Parts Location

INFOID:000000009162902



1. Seat back heater                      2. Seat cushion heater                      3. Heated seat switch

Component Description

INFOID:000000009162903

Item	Function
Heated seat switch	<ul style="list-style-type: none"><li>• Supplies power supply to each heater.</li><li>• Changes the number of activated heaters depending on the HI or LO switch position.</li></ul>
Seat cushion heater	Built in seat cushion and is activated by power supply from heated seat switch.
Seat back heater	Built in seat back and is activated by power supply from heated seat switch.

# HEATED SEAT CONTROL UNIT (DRIVER SIDE)

< ECU DIAGNOSIS INFORMATION >

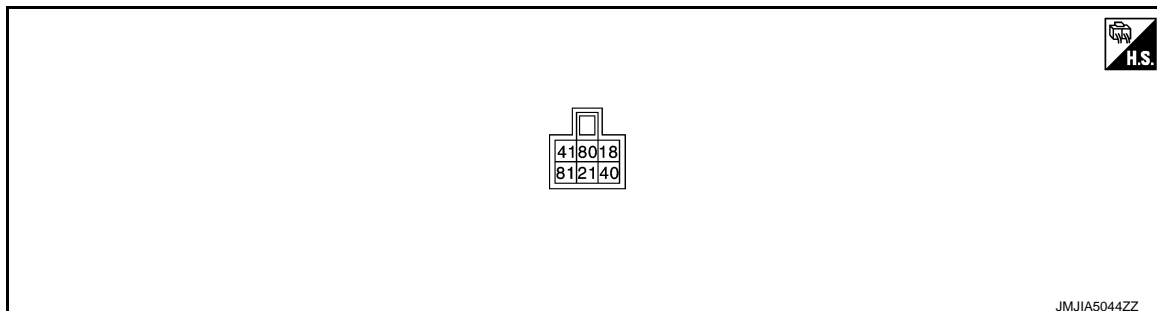
## ECU DIAGNOSIS INFORMATION

### HEATED SEAT CONTROL UNIT (DRIVER SIDE)

Reference Value

INFOID:000000009162904

#### TERMINAL LAYOUT



#### PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Voltage (V) (Approx.)
(+)	(-)	Signal name	Input/ Output			
18 (R)	Ground	IGN power supply	Input	Ignition switch	OFF or ACC ON	0 Battery voltage
21 (B)	Ground	Ground	—	Ignition switch ON		0
40 (W)	Ground	Heat sensor signal	Input	Heated seat switch	OFF OL HI	0 10.87 – 11.02* 11.31 – 11.43*
41 (R/W)	Ground	Seat cushion heater power supply	Output	Heated seat	Operate Other than above	0 – Battery voltage* 0
80 (L/W)	Ground	Heated seat operation signal	Input	Heated seat	Operate Other than above	Battery voltage 0
81 (R/L)	Ground	Heated seat switch signal	Input	Heated seat switch	OFF OL HI	0 12.24 12.90

\*: Voltage is repeated within the value shown as per the following list depending on heater unit temperature.




# POWER SEAT FOR PASSENGER SIDE

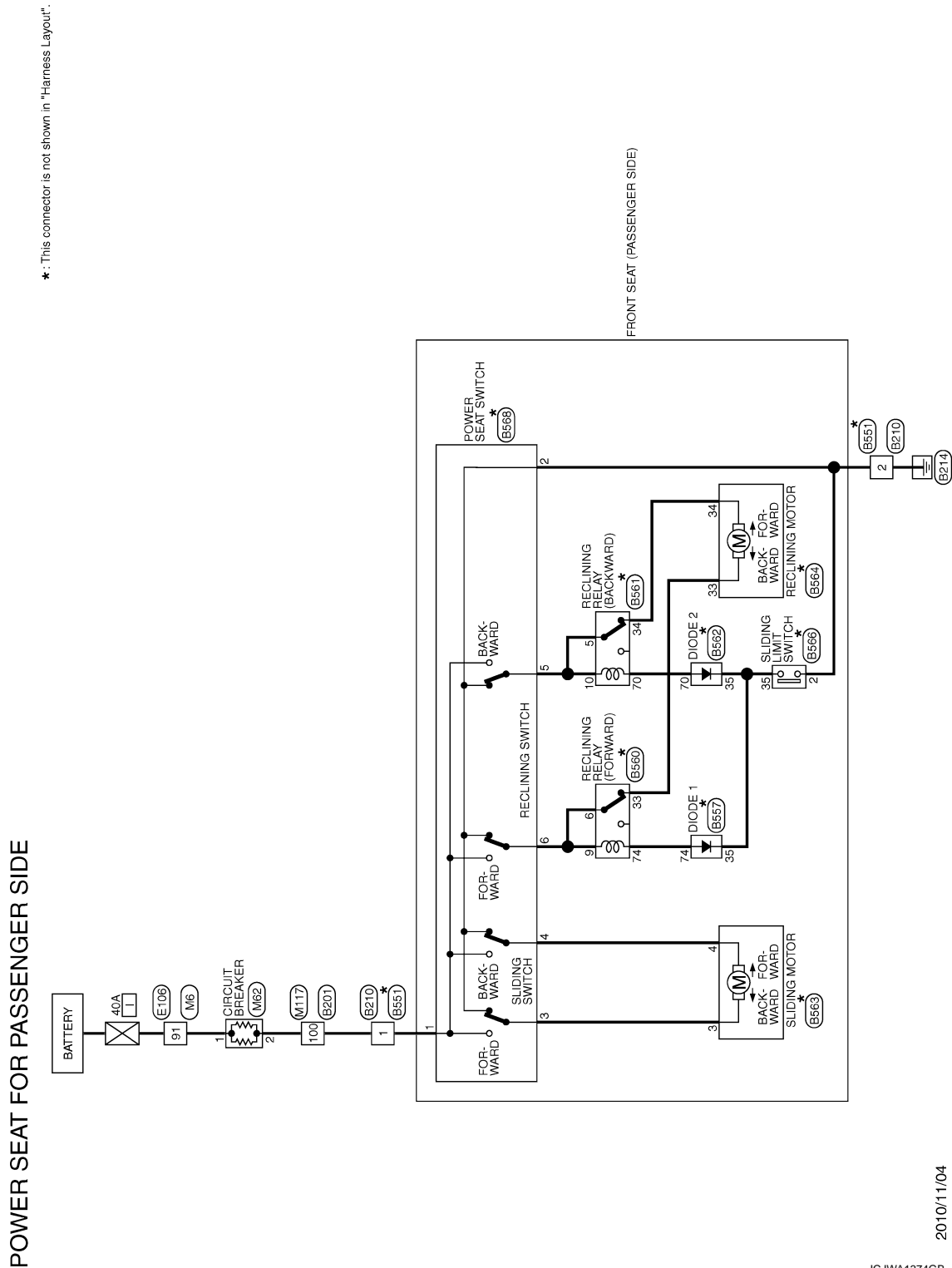
< WIRING DIAGRAM >

## POWER SEAT FOR PASSENGER SIDE

### Wiring Diagram - POWER SEAT FOR PASSENGER SIDE -

INFOID:000000009162906

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).




# HEATED SEAT

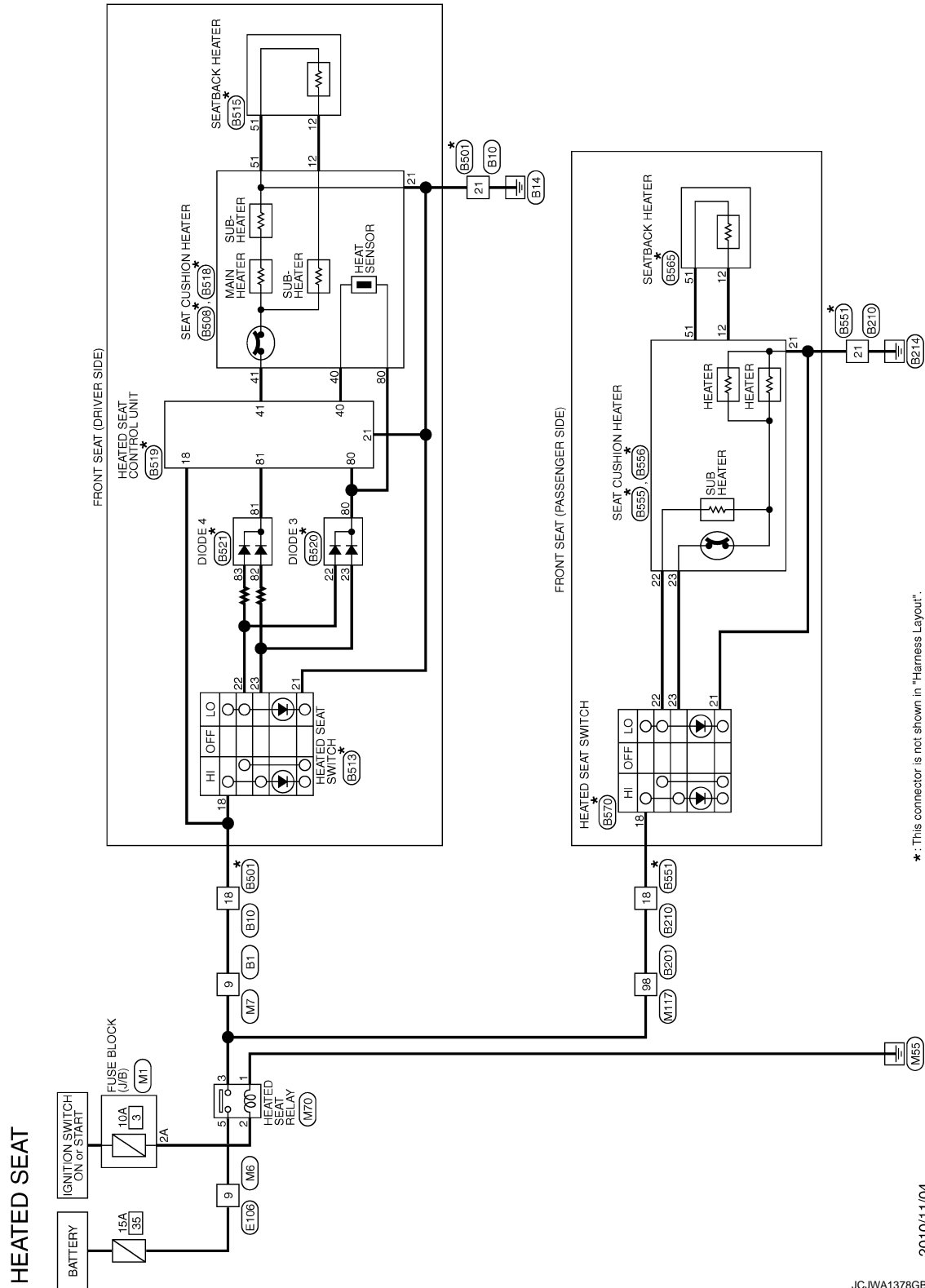
< WIRING DIAGRAM >

## HEATED SEAT

### Wiring Diagram - HEATED SEAT -

INFOID:000000009162907

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## DTC/CIRCUIT DIAGNOSIS

### POWER SUPPLY AND GROUND CIRCUIT

#### HEATED SEAT CONTROL UNIT

#### HEATED SEAT CONTROL UNIT : Diagnosis Procedure

INFOID:000000009162908

#### 1.CHECK FUSE

Check that the following fuse is not fusing.

Signal name	Fuse No.
Battery power supply	35 (15 A)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

#### 2.CHECK POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect heated seat control unit connector.
3. Turn ignition switch ON.
4. Check voltage between heated seat control unit harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
Heated seat control unit			
Connector	Terminal		
B519	18	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

#### 3.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect heated seat relay connector.
3. Check continuity between heated seat control unit harness connector and heated seat relay terminal connector.

Heated seat control unit		Heated seat relay		Continuity
Connector	Terminal	Connector	Terminal	
B519	18	M70	3	Existed

4. Check continuity between heated seat control unit harness connector and ground.

Heated seat control unit		Ground	Continuity
Connector	Terminal		
B519	18		Not existed

Is the inspection result normal?

YES >> Check heated seat relay. Refer to [SE-20. "Component Function Check"](#).

NO >> Repair or replace harness.

#### 4.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between heated seat control unit harness connector and ground.

# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

Heated seat control unit		Ground	Continuity
Connector	Terminal		
B519	21		Existed

Is the inspection result normal?

YES >> Replace heated seat control unit.

NO >> Repair or replace harness.

## HEATED SEAT SWITCH (DRIVER SIDE)

### HEATED SEAT SWITCH (DRIVER SIDE) : Diagnosis Procedure

INFOID:000000009162909

#### 1.CHECK FUSE

Check that the following fuse is not fusing.

Signal name	Fuse No.
Battery power supply	35 (15 A)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

#### 2.CHECK POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect heated seat switch connector.
3. Turn ignition switch ON.
4. Check voltage between heated seat switch harness connector and ground.

(+)			(-)	Voltage (V) (Approx.)
Heated seat switch				
Connector		Terminal		
Driver side	B513	18	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

#### 3.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect heated seat relay connector.
3. Check continuity between heated seat switch harness connector and heated seat relay terminal connector.

Heated seat switch		Heated seat relay		Continuity
Connector	Terminal	Connector	Terminal	
Driver side	B513	M70	3	Existed

4. Check continuity between heated seat switch harness connector and ground.

Heated seat switch		Ground	Continuity
Connector	Terminal		
Driver side	B513		Not existed

Is the inspection result normal?

YES >> Check heated seat relay. Refer to [SE-20, "Component Function Check"](#).

NO >> Repair or replace harness.

#### 4.CHECK INTERMITTENT INCIDENT

## POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

---

Check intermittent incident.

Refer to [GI-38, "Intermittent Incident"](#).

>> INSPECTION END



# HEATED SEAT SWITCH (DRIVER SIDE)

< DTC/CIRCUIT DIAGNOSIS >

## HEATED SEAT SWITCH (DRIVER SIDE)

### Description

INFOID:000000009162910

Adjusts heated seat temperature and deactivates heated seat.

### Component Function Check

INFOID:000000009162911

### 1.CHECK FUNCTION

Check that heated seat warms to preset temperature when operating heated seat switch to the optimal position.

Is the inspection result normal?

- YES >> Heated seat switch function is OK.  
NO >> Refer to [SE-17. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000009162912

### 1.CHECK HEATED SEAT CONTROL UNIT INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect heated seat control unit connector.
3. Turn ignition switch ON.
4. Check voltage between heated seat control unit harness connector and ground.

(+)		(-)	Condition		Voltage (V) (Approx.)
Heated seat control unit					
Connector	Terminal				
B519	81	Ground	Heated seat switch	OFF	0
				LO	12.24
				HI	12.90
	80			OFF	0
				LO	Battery voltage
				HI	

Is the inspection result normal?

- YES >> Heated seat switch circuit is OK.  
NO >> GO TO 2.

### 2.CHECK HEATED SEAT SWITCH CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect heated seat switch connector, diode3 and diode4 connector.
3. Check continuity between heated seat switch harness connector and diode3 harness connector.

Heated seat switch		Diaudo3		Continuity
Connector	Terminal	Connector	Terminal	
B513	22	B520	22	Existed
	23		23	

4. Check continuity between heated seat switch harness connector and diode4 harness connector.

Heated seat switch		Diaudo4		Continuity
Connector	Terminal	Connector	Terminal	
B513	22	B521	83	Existed
	23		82	

5. Check continuity between heated seat switch harness connector and ground.

## HEATED SEAT SWITCH (DRIVER SIDE)

### < DTC/CIRCUIT DIAGNOSIS >

Heated seat switch		Ground	Continuity
Connector	Terminal		
B513	22		Not existed
	23		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

### 3.CHECK HEATED SEAT SWITCH CIRCUIT 2

Check resistance between heated seat switch harness connector and diode4 harness connector.

Heated seat switch		Diaudo4		Condition		Resistance (Ω) (Approx.)
Connector	Terminal	Connector	Terminal			
B513	22	B521	83	Heated seat switch	LO	2.400
	23		82		HI	0.384

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

### 4.CHECK HEATED SEAT SWITCH CIRCUIT 3

1. Check continuity between heated seat control unit harness connector and diode3 harness connector.

Heated seat control unit		Diaudo3		Continuity
Connector	Terminal	Connector	Terminal	
B519	80	B520	80	Existed

2. Check continuity between heated seat control unit harness connector and diode4 harness connector.

Heated seat control unit		Diaudo4		Continuity
Connector	Terminal	Connector	Terminal	
B519	81	B521	81	Existed

3. Check continuity between heated seat control unit harness connector and ground.

Heated seat control unit		Ground	Continuity
Connector	Terminal		
B519	80		Not existed
	81		

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

### 5.CHECK HEATED SEAT SWITCH

Check heated seat switch.

Refer to [SE-18. "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace harness between heated seat switch and heated seat control unit.

NO >> Replace heated seat switch.

## Component Inspection

INFOID:000000009162913

### 1.CHECK FRONT HEATED SEAT SWITCH

1. Turn ignition OFF.

## HEATED SEAT SWITCH (DRIVER SIDE)

### < DTC/CIRCUIT DIAGNOSIS >

2. Disconnect heated seat switch connector.
3. Check continuity between heated seat switch terminals.

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Heated seat switch		Condition		Continuity
Terminal				
18	22	Heated seat switch	OFF	Not existed
			LO	Existed
	23		OFF	Not existed
			HI	Existed

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace heated seat switch.

# HEATED SEAT RELAY

< DTC/CIRCUIT DIAGNOSIS >

## HEATED SEAT RELAY

### Description

INFOID:000000009162914

Power is supplied to the heated seat using ignition power supply control.

### Component Function Check

INFOID:000000009162915

#### 1.CHECK FUNCTION

Check that heated seat warms to preset temperature when operating heated seat switch to the optimal position.

Is the inspection result normal?

- YES >> Heated seat relay function is OK.  
NO >> Refer to [SE-20. "Diagnosis Procedure"](#)

### Diagnosis Procedure

INFOID:000000009162916

#### 1.CHECK HEATED SEAT RELAY POWER SUPPLY 1

1. Turn ignition switch OFF.
2. Disconnect heated seat relay.
3. Turn ignition switch ON.
4. Check voltage between heated seat relay terminal connector and ground.

(+)		(-)	Voltage (V) (Approx.)
Heated seat relay			
Connector	Terminal		
M70	2	Ground	Battery voltage

Is the inspection result normal?

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

#### 2.CHECK HEATED SEAT RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect fuse block (J/B) connector.
3. Turn ignition switch ON.
4. Check continuity between heated seat relay terminal connector and fuse block (J/B) harness connector.

Heated seat relay		Fuse block (J/B)		Continuity
Connector	Terminal	Connector	Terminal	
M70	2	M1	2A	Existed

5. Check continuity between heated seat relay terminal connector and ground.

Heated seat relay		Ground	Continuity
Connector	Terminal		
M70	2		Not existed

Is the inspection result normal?

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

#### 3.DETECT MALFUNCTIONING PART

Check the following.

- 10 A fuse (#3)
- Harness for open or short between fuse block (J/B) harness connector and battery terminal.

Is the inspection result normal?

- YES >> GO TO 8.

# HEATED SEAT RELAY

## < DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace the malfunctioning parts.

### 4.CHECK HEATED SEAT RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between heated seat relay terminal connector and ground.

Heated seat relay		Ground	Continuity
Connector	Terminal		
M70	1		Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

### 5.CHECK HEATED SEAT RELAY POWER SUPPLY 2

1. Turn ignition switch OFF.
2. Check continuity between heated seat relay terminal connector and ground.

(+) Heated seat relay		(-)	Voltage (V) (Approx.)
Connector	Terminal		
M70	5		Battery voltage

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

### 6.DETECT MALFUNCTIONING PART

Check the following.

- 15 A fuse (#35)
- Harness for open or short between heated seat relay terminal connector and battery terminal.

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace the malfunctioning parts.

### 7.CHECK HEATED SEAT RELAY

Check heated seat relay.

Refer to [SE-21, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace heated seat relay.

### 8.CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to [GI-38, "Intermittent Incident"](#)

>> INSPECTION END

## Component Inspection

INFOID:000000009162917

### 1.CHECK HEATED SEAT RELAY

1. Turn ignition switch OFF.
2. Disconnect heated seat relay.
3. Check continuity between heated seat relay terminals.

# HEATED SEAT RELAY

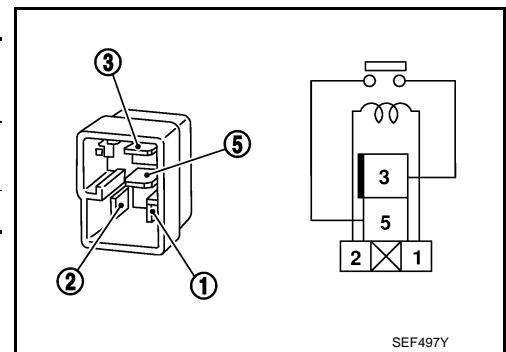
## < DTC/CIRCUIT DIAGNOSIS >

heated seat relay		Condition	Continuity
Terminal			
3	5	12 V direct current supply between terminals 1 and 2.	Existed
		No current supply	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace heated seat relay.



# HEAT SENSOR

< DTC/CIRCUIT DIAGNOSIS >

## HEAT SENSOR

### Description

INFOID:000000009162918

Detects seat cushion heater temperature and outputs to heated seat control unit.

### Component Function Check

INFOID:000000009162919

#### 1.CHECK FUNCTION

Check that heated seat warms to preset temperature when operating heated seat switch to the optimal position.

Is the inspection result normal?

- YES >> Heat sensor function is OK.  
NO >> Refer to [SE-23. "Diagnosis Procedure"](#)

### Diagnosis Procedure

INFOID:000000009162920

#### 1.CHECK HEAT SENSOR INPUT SIGNAL

- Turn ignition switch ON.
- Check voltage between heated seat control unit harness connector and ground.

(+)		(-)	Condition		Voltage (V) (Approx.)
Heated seat control unit					
Connector	Terminal				
B519	40	Ground	Heated seat switch	OFF	0
				LO	10.87 – 11.02
				HI	11.31 – 11.43

#### NOTE:

Voltage is repeated within the value shown as per the following list depending on heater unit temperature.

Is the inspection result normal?

- YES >> heat sensor is OK.  
NO >> GO TO 2.

#### 2.CHECK HEAT SENSOR CIRCUIT

- Turn ignition switch OFF.
- Disconnect heated seat control unit connector and seat cushion heater connector.
- Check continuity between heated seat control unit harness connector and seat cushion heater harness connector.

Heated seat control unit		Seat cushion heater		Continuity
Connector	Terminal	Connector	Terminal	
B519	40	B518	40	Existed

- Check continuity between heated seat control unit harness connector and ground.

Heated seat control unit		Ground	Continuity
Connector	Terminal		
B519	40		Not existed

Is the inspection result normal?

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

#### 3.CHECK HEAT SENSOR POWER SUPPLY

- Turn ignition switch ON.
- Check voltage between seat cushion heater harness connector and ground.

# HEAT SENSOR

## < DTC/CIRCUIT DIAGNOSIS >

(+)		(-)	Condition		Voltage (V) (Approx.)
Seat cushion heater					
Connector	Terminal				
B518	80	Ground	Heated seat switch	LO / HI	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

### 4.CHECK HEAT SENSOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect diode3 connector and heated seat control unit connector.
3. Check continuity between diode3 harness connector and seat cushion heater harness connector.

Seat cushion heater		diode3		Continuity
Connector	Terminal	Connector	Terminal	
B518	80	B520	80	Existed

4. Check continuity between seat cushion heater harness connector and ground.

Seat cushion heater		Ground	Continuity
Connector	Terminal		
B518	80		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

### 5.CHECK HEAT SENSOR

Check heat sensor. Refer to [SE-24. "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace seat cushion heater.

### 6.CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to [GI-38. "Intermittent Incident"](#)

>> INSPECTION END

## Component Inspection

INFOID:000000009162921

### 1.CHECK HEAT SENSOR

1. Turn ignition switch OFF.
2. Disconnect seat cushion heater connector.
3. Check resistance between seat cushion heater terminals.

Seat cushion heater		Condition	Resistance (KΩ) (Approx.)
Terminal			
40	80	When heat sensor temperature is 25°C (77°F)	9.9 – 10.2

#### NOTE:

Resistance value changes according to temperature.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace seat cushion heater.



# SEAT CUSHION HEATER (DRIVER SIDE)

< DTC/CIRCUIT DIAGNOSIS >

## SEAT CUSHION HEATER (DRIVER SIDE)

### Description

INFOID:000000009162922

Warms the seat cushion.

### Component Function Check

INFOID:000000009162923

### 1.CHECK FUNCTION

Check that heated seat warms to preset temperature when operating heated seat switch to the optimal position.

Is the inspection result normal?

- YES >> Seat cushion heater function is OK.  
NO >> Refer to [SE-25. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000009162924

### 1.CHECK SEAT CUSHION HEATER INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect seat cushion heater connector.
3. Turn ignition switch ON.
4. Check voltage between seat cushion heater harness connector and ground.

(+) Seat cushion heater		(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				
B518	41	Ground	Heated seat	Operates	0 – Battery voltage
				Other than above	0

#### NOTE:

Voltage is repeated within the value shown as per the following list depending on heater unit temperature.

Is the inspection result normal?

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

### 2.CHECK SEAT CUSHION HEATER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect heated seat control unit connector.
3. Check continuity between seat cushion heater harness connector and heated seat control unit harness connector.

Seat cushion heater		Heated seat control unit		Continuity
Connector	Terminal	Connector	Terminal	
B518	41	B519	41	Existed

4. Check continuity between seat cushion heater harness connector and ground.

Seat cushion heater		Ground	Continuity
Connector	Terminal		
B518	41		Not existed

Is the inspection result normal?

- YES >> Replace heated seat control unit.  
NO >> Repair or replace harness.

### 3.CHECK SEAT CUSHION HEATER OUTPUT SIGNAL

1. Turn ignition switch OFF.

## SEAT CUSHION HEATER (DRIVER SIDE)

### < DTC/CIRCUIT DIAGNOSIS >

2. Connect seat cushion heater connector.
3. Disconnect seatback heater connector.
4. Turn ignition switch ON.
5. Check voltage between seat cushion heater harness connector and ground.

(+)		(-)	Condition		Voltage (V) (Approx.)
Seat cushion heater					
Connector	Terminal				
B518	12	Ground	Heated seat	Operates	0 – Battery voltage
				Other than above	0

#### NOTE:

Voltage is repeated within the value shown as per the following list depending on heater unit temperature.

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace seat cushion heater.

### 4.CHECK SEAT CUSHION HEATER GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect seat cushion heater connector.
3. Check continuity between seat cushion heater harness connector and ground.

Seat cushion heater		Ground	Continuity
Connector	Terminal		
B518	21		Existed

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

### 5.CHECK SEAT CUSHION HEATER

Check seat cushion heater.

Refer to [SE-26, "Component Inspection"](#).

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace seat cushion heater.

### 6.CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to [GI-38, "Intermittent Incident"](#)

>> INSPECTION END

## Component Inspection

INFOID:0000000009162925

### 1.CHECK SEAT CUSHION HEATER (MAIN HEATER CIRCUIT)

1. Turn ignition switch OFF.
2. Disconnect seat cushion heater connector.
3. Check resistance between seat cushion heater terminals.

Seat cushion heater		Condition	Resistance (Ω) (Approx.)
Terminal			
21	41	When heat sensor temperature is 20°C (68°F)	2.99 – 3.59

#### NOTE:

Resistance value changes according to temperature.

#### Is the inspection result normal?

## SEAT CUSHION HEATER (DRIVER SIDE)

### < DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 2.  
NO >> Replace seat cushion heater.

### 2.CHECK SEAT CUSHION HEATER (SEATBACK HEATER CIRCUIT)

Check resistance between seat cushion heater terminals.

Seat cushion heater		Condition	Resistance (Ω) (Approx.)
Terminal			
21	12	When heat sensor temperature is 20°C (68°F)	3.13 – 3.75

#### NOTE:

Resistance value changes according to temperature.

Is the inspection result normal?

YES >> INSPECTION END  
NO >> Replace seat cushion heater.

SE

# SEATBACK HEATER (DRIVER SIDE)

< DTC/CIRCUIT DIAGNOSIS >

## SEATBACK HEATER (DRIVER SIDE)

### Description

INFOID:000000009162926

Warms the seatback.

### Component Function Check

INFOID:000000009162927

#### 1.CHECK FUNCTION

Check that heated seat warms to preset temperature when operating heated seat switch to the optimal position.

Is the inspection result normal?

- YES >> Seatback heater function is OK.  
NO >> Refer to [SE-28, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000009162928

#### 1.CHECK SEAT CUSHION HEATER INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect seatback heater connector.
3. Turn ignition switch ON.
4. Check voltage between seatback heater harness connector and ground.

(+)		(-)	Condition		Voltage (V) (Approx.)
Seatback heater					
Connector	Terminal				
B515	12	Ground	Heated seat	Operates	0 – Battery voltage
				Other than above	0

#### NOTE:

Voltage is repeated within the value shown as per the following list depending on heater unit temperature.

Is the inspection result normal?

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

#### 2.CHECK SEATBACK HEATER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect seat cushion heater connector.
3. Check continuity between seatback heater harness connector and seat cushion heater harness connector.

Seatback heater		Seat cushion heater		Continuity
Connector	Terminal	Connector	Terminal	
B515	12	B508	12	Existed

4. Check continuity between seatback heater harness connector and ground.

Seatback heater		Ground	Continuity
Connector	Terminal		
B515	12		Not existed

Is the inspection result normal?

- YES >> GO TO 6.  
NO >> Repair or replace harness.

#### 3.CHECK SEATBACK HEATER OUTPUT SIGNAL

1. Turn ignition switch OFF.

## SEATBACK HEATER (DRIVER SIDE)

### < DTC/CIRCUIT DIAGNOSIS >

2. Connect seat cushion heater connector.
3. Check continuity between seatback heater harness connector and seat cushion heater harness connector.

Seatback heater		Seat cushion heater		Continuity
Connector	Terminal	Connector	Terminal	
B515	51	B508	51	Existed

4. Check continuity between seatback heater harness connector and ground.

Seatback heater		Ground	Continuity
Connector	Terminal		
B515	51		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace seat cushion heater.

### 4.CHECK SEAT CUSHION HEATER

Check seat cushion heater.

Refer to [SE-26. "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace seat cushion heater.

### 5.CHECK SEATBACK HEATER

Check seatback heater.

Refer to [SE-26. "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace seatback heater.

### 6.CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to [GI-38. "Intermittent Incident"](#)

>> INSPECTION END

## Component Inspection (Seat Cushion Heater)

INFOID:000000009162929

### 1.CHECK SEAT CUSHION HEATER

1. Turn ignition switch OFF.
2. Disconnect seat cushion heater connector.
3. Check continuity between seatback heater terminals.

Seat cushion heater		Continuity
Terminal		
51	21	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace seat cushion heater.

## Component Inspection (Seatback Heater)

INFOID:000000009162930

### 1.CHECK SEATBACK HEATER

1. Turn ignition switch OFF.
2. Disconnect seatback heater connector.

## SEATBACK HEATER (DRIVER SIDE)

### < DTC/CIRCUIT DIAGNOSIS >

3. Check resistance between seatback heater terminals.

Seatback heater		Condition	Resistance (Ω)
Terminal			
12	51	When heat sensor temperature is 20°C (68°F)	3.51 – 4.21

**NOTE:**

Resistance value changes according to temperature.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace seatback heater.

# HEATED SEAT SWITCH INDICATOR (DRIVER SIDE)

< DTC/CIRCUIT DIAGNOSIS >

## HEATED SEAT SWITCH INDICATOR (DRIVER SIDE)

### Description

INFOID:000000009162931

Illuminates the indicator that indicates the operating status of heated seat.

### Component Function Check

INFOID:000000009162932

#### 1.CHECK FUNCTION

Check that the related indicator lamp illuminates when heated seat switch is set to ON.

Is the inspection result normal?

- YES >> Heated seat switch indicator function is OK.  
NO >> Refer to [SE-31, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000009162933

#### 1.CHECK HEATED SEAT SWITCH INDICATOR GROUND CIRCUIT

1. Turn ignition switch OFF
2. Disconnect heated seat switch connector.
3. Check continuity between heated seat switch harness connector and ground.

Heated seat switch		Ground	Continuity
Connector	Terminal		
B513	21		Existed

Is the inspection result normal?

- YES >> Replace heated seat switch.  
NO >> Repair or replace harness.

SE

# DRIVER HEATED SEAT DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### DRIVER HEATED SEAT DOES NOT OPERATE

#### Diagnosis Procedure

INFOID:000000009162934

#### 1.CHECK HEATED SEAT CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check heated seat switch power supply and ground circuit.

Refer to [SE-14, "HEATED SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

#### 2.CHECK HEATED SEAT RELAY

Check heated seat relay.

Refer to [SE-20, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

#### 3.CHECK HEATED SEAT SWITCH POWER SUPPLY

Check heated seat switch power supply.

Refer to [SE-17, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

#### 4.CHECK HEATED SEAT SWITCH

Check heated seat switch.

Refer to [SE-17, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the malfunctioning parts.

#### 5.CHECK SEAT CUSHION HEATER

Check seat cushion heater.

Refer to [SE-25, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace the malfunctioning parts.

#### 6.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).

NO >> GO TO 1.



# DRIVER SEATBACK HEATER ONLY DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

## DRIVER SEATBACK HEATER ONLY DOES NOT OPERATE

### Diagnosis Procedure

INFOID:000000009162935

#### 1.CHECK SEATBACK HEATER

Check seatback heater.

Refer to [SE-28, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

#### 2.CHECK SEAT CUSHION HEATER

Check seat cushion heater.

Refer to [SE-31, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

#### 3.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).

NO >> GO TO 1.

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# CANNOT ADJUST DRIVER HEATED SEAT TEMPERATURE

< SYMPTOM DIAGNOSIS >

---

## CANNOT ADJUST DRIVER HEATED SEAT TEMPERATURE

### Diagnosis Procedure

INFOID:000000009162936

#### 1.CHECK HEATED SEAT SWITCH

---

Check heated seat switch.

Refer to [SE-17, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

#### 2.CHECK HEAT SENSOR

---

Check heat sensor.

Refer to [SE-23, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

#### 3.CONFIRM THE OPERATION

---

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).

NO >> Replace heated seat control unit.

# DRIVER HEATED SEAT SWITCH INDICATOR DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

## DRIVER HEATED SEAT SWITCH INDICATOR DOES NOT TURN ON

### Diagnosis Procedure

INFOID:000000009162937

#### 1.CHECK HEATED SEAT SWITCH INDICATOR

Check heated seat switch indicator.

Refer to [SE-31, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

#### 2.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).

NO >> GO TO 1.

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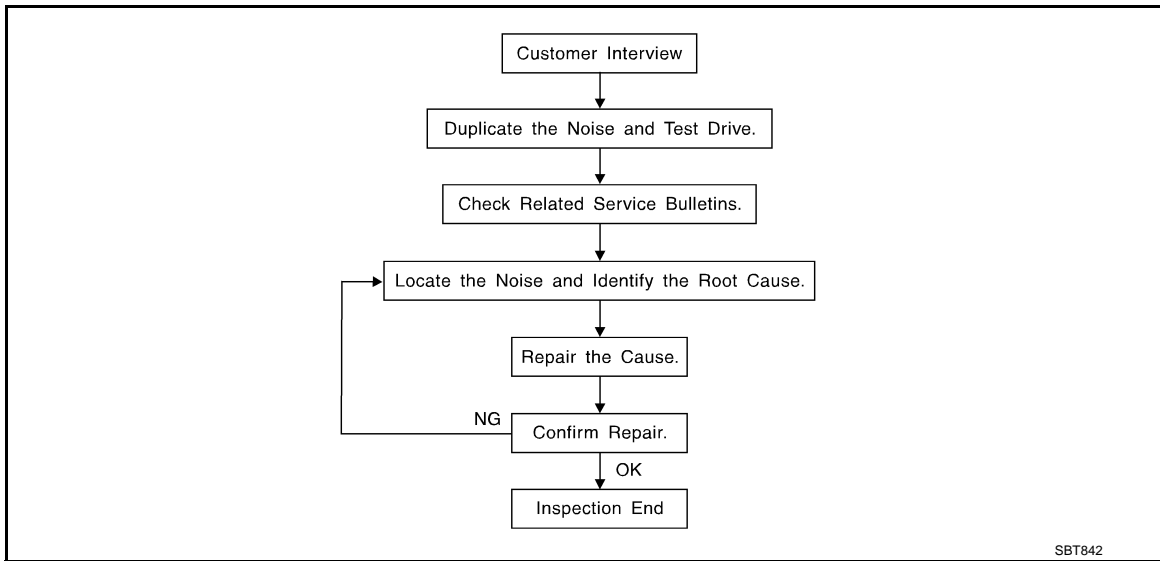
# SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

## SQUEAK AND RATTLE TROUBLE DIAGNOSES

### Work Flow

INFOID:000000009162938



### 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 of customer's comments; refer to [SE-40, "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, perform a diagnosis and repair the noise that the customer is concerned about. This can be accomplished by performing a cruise test on 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 bumblebee)  
Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending up on the person. A noise that a technician 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

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when the repair is reconfirmed.

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

- 1) Close a door.
  - 2) Tap or push/pull around the area where the noise appears to be coming from.
  - 3) Rev the engine.
  - 4) Use a floor jack to recreate vehicle "twist".
  - 5) At idle, apply engine load (electrical load, half-clutch on M/T models, drive position on A/T models).
  - 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.
- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
  - If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

## CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.

If a TSB relates to the symptom, follow the procedure to repair the noise.

## LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis ear: J-39570, Engine ear and mechanics stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
  - Removing the components in the area that is are suspected to be the cause of the noise.  
Do not use too much force when removing clips and fasteners, otherwise clips and fastener can be broken or lost during the repair, resulting in the creation of new noise.
  - Tapping or pushing/pulling the component that is are suspected to be the cause of the noise.  
Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
  - Feeling for a vibration by hand by touching the component(s) that is are suspected to be the cause of the noise.
  - Placing a piece of paper between components that are suspected to be the cause of the noise.
  - Looking for loose components and contact marks.  
Refer to [SE-38. "Inspection Procedure"](#).

## REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:
  - Separate components by repositioning or loosening and retightening the component, if possible.
  - Insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A Nissan Squeak and Rattle Kit (J-43980) is available through the authorized Nissan Parts Department.

### CAUTION:

**Never use excessive force as many components are constructed of plastic and may be damaged.**

### NOTE:

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

The following materials are contained in the Nissan Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.

URETHANE PADS [1.5 mm (0.059 in) thick]

Insulates connectors, harness, etc.

- 76268-9E005: 100 × 135 mm (3.937 × 5.315 in)
- 76884-71L01: 60 × 85 mm (2.362 × 3.346 in)
- 76884-71L02: 15 × 25 mm (0.591 × 0.984 in)

INSULATOR (Foam blocks)

Insulates components from contact. Can be used to fill space behind a panel.

- 73982-9E000: 45 mm (1.772 in) thick, 50 × 50 mm (1.969 × 1.969 in)
- 73982-50Y00: 10 mm (0.394 in) thick, 50 × 50 mm (1.969 × 1.969 in)

INSULATOR (Light foam block)

- 80845-71L00: 30 mm (1.181 in) thick, 30 × 50 mm (1.181 × 1.969 in)

FELT CLOTHTAPE

Used to insulate where movement does not occur. Ideal for instrument panel applications.

- 68370-4B000: 15 × 25 mm (0.59 × 0.984 in) pad
- 68239-13E00: 5 mm (0.197 in) wide tape roll

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

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The following materials, not found in the kit, can also be used to repair squeaks and rattles.

### UHMW (TEFLON) TAPE

Insulates where slight movement is present. Ideal for instrument panel applications.

### SILICONE GREASE

Used in place of UHMW tape that is be visible or does not fit. Will only last a few months.

### SILICONE SPRAY

Used when grease cannot be applied.

### DUCT TAPE

Used to eliminate movement.

## CONFIRM THE REPAIR

Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.

## Inspection Procedure

INFOID:000000009162939

Refer to Table of Contents for specific component removal and installation information.

## INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

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

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

### **CAUTION:**

**Never use silicone spray to isolate a squeak or rattle. If the area is saturated with silicone, the recheck of repair becomes impossible.**

## CENTER CONSOLE

Components to pay attention to include:

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

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

## DOORS

Pay attention to the following:

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

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. The areas can usually be insulated with felt cloth tape or insulator foam blocks from the Nissan Squeak and Rattle Kit (J-43980) to repair the noise.

## TRUNK

Trunk noises are often caused by a loose jack or loose items put into the trunk by the customer.

In addition look for the following:

1. Trunk lid dumpers out of adjustment
2. Trunk lid striker out of adjustment
3. The trunk lid torsion bars knocking together

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

4. A loose license plate or bracket

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

## SUNROOF/HEADLINING

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

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

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

## SEATS

When isolating seat noise it's important to note the position the seats in and the load placed on the seat when the noise occurs. These conditions should be duplicated when verifying and isolating the cause of the noise.

Cause of seat noise include:

1. Headrest rods and holder
2. A squeak between the seat pad cushion and frame
3. The rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

## UNDERHOOD

Some interior noise may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.

Causes of transmitted underhood noise include:

1. Any component mounted to the engine wall
2. Components that pass through the engine wall
3. Engine wall mounts and connectors
4. Loose radiator mounting pins
5. Hood bumpers out of adjustment
6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine RPM or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

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# SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

## Diagnostic Worksheet

INFOID:000000009162940



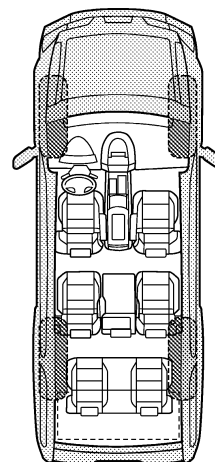
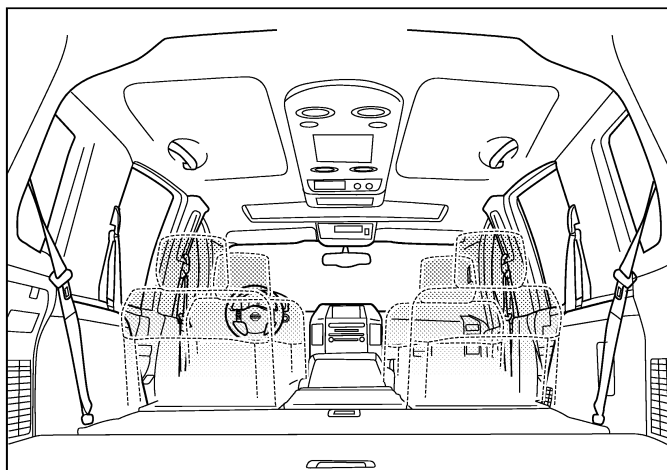
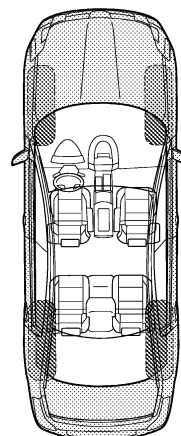
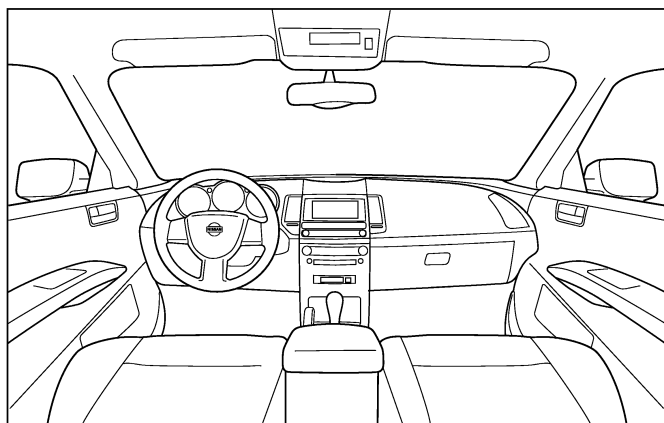
### SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

Dear Nissan Customer:

We are concerned about your satisfaction with your Nissan vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Nissan 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.

#### 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.

PIIB8740E



# SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

## SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

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### II. WHEN DOES IT OCCUR? (please check the boxes that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> anytime                      | <input type="checkbox"/> after sitting out in the rain |
| <input type="checkbox"/> 1st time in the morning      | <input type="checkbox"/> when it is raining or wet     |
| <input type="checkbox"/> only when it is cold outside | <input type="checkbox"/> dry or dusty conditions       |
| <input type="checkbox"/> only when it is hot outside  | <input type="checkbox"/> other:                        |

### III. WHEN DRIVING:

- ☐ through driveways
- ☐ over rough roads
- ☐ over speed bumps
- ☐ only about \_\_\_\_ mph
- ☐ on acceleration
- ☐ coming to a stop
- ☐ on turns: left, right or either (circle)
- ☐ with passengers or cargo
- ☐ other: \_\_\_\_\_
- ☐ after driving \_\_\_\_ miles or \_\_\_\_ minutes

### IV. WHAT TYPE OF NOISE

- ☐ squeak (like tennis shoes on a clean floor)
- ☐ creak (like walking on an old wooden floor)
- ☐ rattle (like shaking a baby rattle)
- ☐ knock (like a knock at the door)
- ☐ tick (like a clock second hand)
- ☐ thump (heavy, muffled knock noise)
- ☐ buzz (like a bumble bee)

### TO BE COMPLETED BY DEALERSHIP PERSONNEL

#### Test Drive Notes:

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	YES	NO	Initials of person performing
Vehicle test driven with customer	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise verified on test drive	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise source located and repaired	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Follow up test drive performed to confirm repair	<input type="checkbox"/>	<input type="checkbox"/>	_____

VIN: \_\_\_\_\_ Customer Name: \_\_\_\_\_  
W.O.# \_\_\_\_\_ Date: \_\_\_\_\_

This form must be attached to Work Order

PIIB8742E

# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000009162941

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 "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

#### **WARNING:**

**Always observe the following items for preventing accidental activation.**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never 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:**

**Always observe the following items for preventing accidental activation.**

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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 3 minutes before performing any service.

#### Precaution for Battery Service

INFOID:000000009162942

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

#### Service Notice

INFOID:000000009162943

- When removing or installing various parts, place a cloth or padding onto the vehicle body to prevent scratches.
- Handle trim, molding, instruments, grille, etc. carefully during removing or installing. Be careful not to oil or damage them.
- Apply sealing compound where necessary when installing parts.
- When applying sealing compound, be careful that the sealing compound does not protrude from parts.
- When replacing any metal parts (for example body outer panel, members, etc.), be sure to take rust prevention measures.

#### Precaution for Work

INFOID:000000009162944

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and keep them.

## PRECAUTIONS

### < PRECAUTION >

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- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After re-installation is completed, be sure to check that each part works normally.
- Follow the steps below to clean components.
- Water soluble foul: Dip a soft cloth into lukewarm water, and wring the water out of the cloth to wipe the fouled area.  
Then rub with a soft and dry cloth.
- Oily foul: Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%), and wipe the fouled area.  
Then dip a cloth into fresh water, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol, and gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

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# PREPARATION

< PREPARATION >

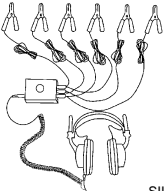
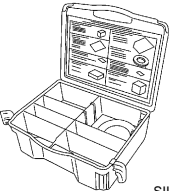
## PREPARATION

### PREPARATION

#### Special Service Tool

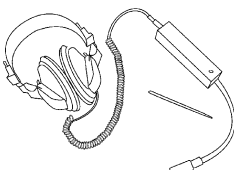
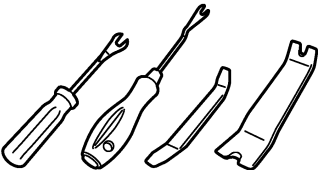
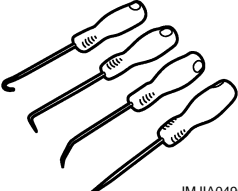
INFOID:000000009162945

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
(J39570) Chassis ear  SIIA0993E	Locates the noise
(J43980) NISSAN Squeak and Rattle Kit  SIIA0994E	Repairs the cause of noise

#### Commercial Service Tool

INFOID:000000009162946

Tool name	Description
Engine ear  SIIA0995E	Locates the noise
Remover tool  JMKIA3050ZZ	Removes clips, pawls and metal clips
Hook and pick tool  JMJIA0490ZZ	Removes the snap pins.

# CLIP LIST

< PREPARATION >

## CLIP LIST

### Clip List

INFOID:000000009162947

Shapes	Removal & Installation		Shapes	Removal & Installation	
	<b>Removal:</b> Remove by bending up with flat-bladed screwdrivers or clip remover.			<b>Removal:</b> 	
	<b>Removal:</b> Remove with a clip remover.			<b>Removal:</b> Flat-bladed screwdriver Finisher	
	<b>Removal:</b> Push center pin to catching position. (Do not remove center pin by hitting it.)	<b>Installation:</b> Push		<b>Removal:</b> Holder portion of clip must be spread out to remove rod.	
	<b>Removal:</b> Remove by bending up with flat-bladed screwdrivers or clip remover.			<b>Removal:</b> 1. Screw out with a Phillips screwdriver. 2. Remove female portion with flat-bladed screwdriver.	
	<b>Removal:</b> 			<b>Removal:</b> 	<b>Installation:</b> 
	<b>Removal:</b> 			<b>Removal:</b> 	

JMJIA3734GB

# FRONT SEAT

< REMOVAL AND INSTALLATION >

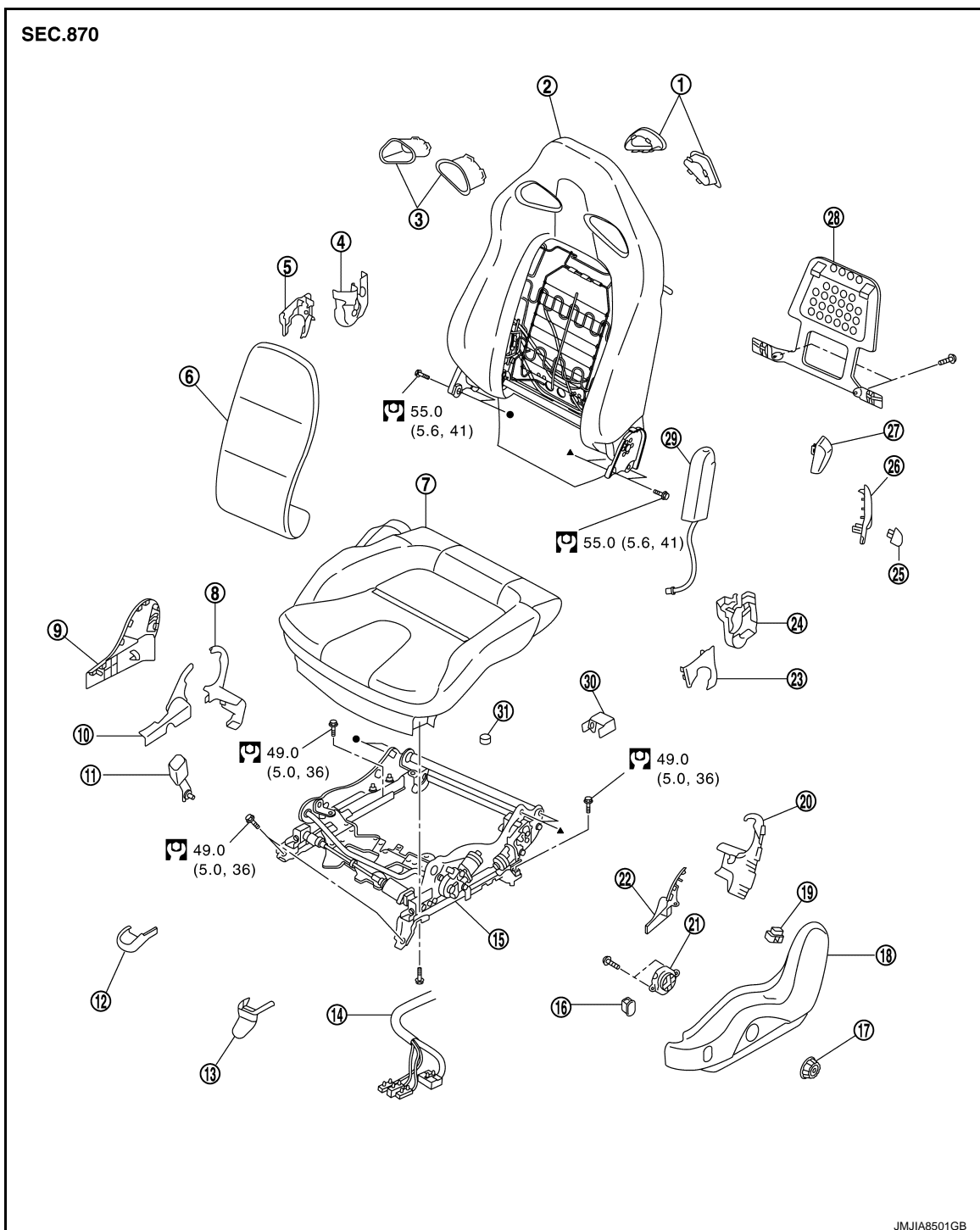
## REMOVAL AND INSTALLATION

### FRONT SEAT

#### Exploded View

INFOID:000000009162948

Driver seat



- |  |   |                              |
|--|---|------------------------------|
| 1. Seatback ornament (rear)              | 2. Seatback assembly                      | 3. Seatback ornament (front) |
| 4. Reclining device inner cover (inside) | 5. Reclining device inner cover (outside) | 6. Seatback assembly (main)  |

## FRONT SEAT

### < REMOVAL AND INSTALLATION >

- |  |   |   |
|--|---|---|
| 7. Seat cushion assembly                       | 8. Seat cushion inner finisher inside (rear)  | 9. Seat cushion inner finisher outside    |
| 10. Seat cushion inner finisher inside (front) | 11. Seat belt buckle                          | 12. Front slide inner cover               |
| 13. Front slide outer cover                    | 14. Seat harness                              | 15. Seat adjuster assembly                |
| 16. Thigh support switch                       | 17. Seat control switch knob                  | 18. Seat cushion outer finisher outside   |
| 19. Heater seat switch                         | 20. Seat cushion outer finisher inside (rear) | 21. Seat control switch                   |
| 22. Seat cushion outer finisher inside (front) | 23. Reclining device outer cover (outside)    | 24. Reclining device outer cover (inside) |
| 25. Walk-in lever knob                         | 26. Walk-in lever escutcheon                  | 27. Knob                                  |
| 28. Seatback cover panel                       | 29. Side air bag module                       | 30. Rear slide outer cover                |
| 31. Rear inner bolt cap                        |   |   |

Refer to [GI-4, "Components"](#) for symbols in the figure.

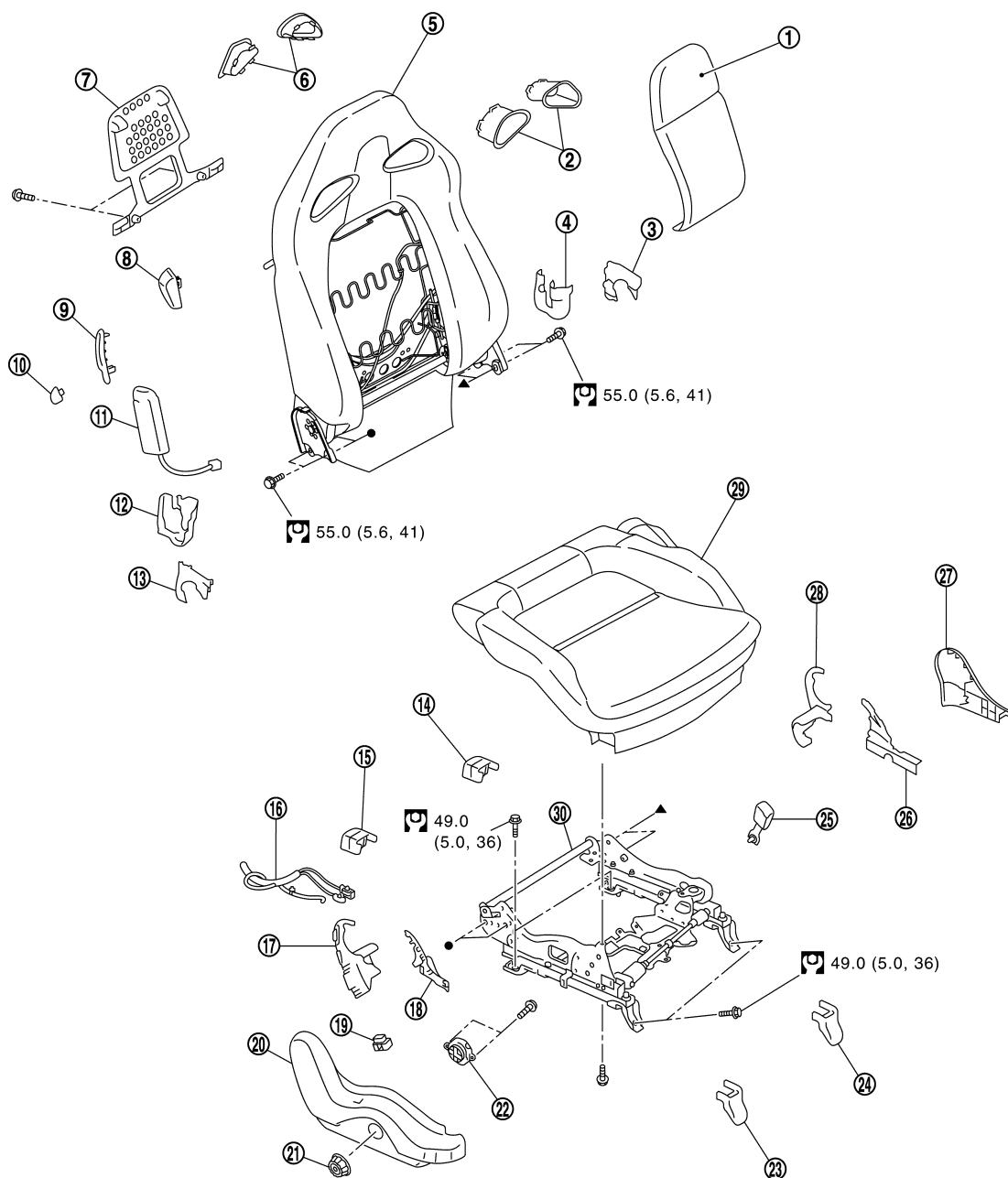
### Passenger seat

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# FRONT SEAT

## < REMOVAL AND INSTALLATION >

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- |  |   |  |
|--|---|--|
| 1. Seatback assembly (main)                | 2. Seatback ornament (front)                  | 3. Reclining device inner cover (outside)      |
| 4. Reclining device inner cover (inside)   | 5. Seatback assembly                          | 6. Seatback ornament (rear)                    |
| 7. Seatback cover panel                    | 8. Knob                                       | 9. Walk-in lever escutcheon                    |
| 10. Walk-in lever knob                     | 11. Side air bag module                       | 12. Reclining device outer cover (inside)      |
| 13. Reclining device outer cover (outside) | 14. Rear slide inner cover                    | 15. Rear slide outer cover                     |
| 16. Seat harness                           | 17. Seat cushion outer finisher inside (rear) | 18. Seat cushion outer finisher inside (front) |
| 19. Heater seat switch                     | 20. Seat cushion outer finisher outside       | 21. Seat control switch knob                   |
| 22. Seat control switch                    | 23. Front slide outer cover                   | 24. Front slide inner cover                    |



# FRONT SEAT

## < REMOVAL AND INSTALLATION >

- |   |  |   |
|---|--|---|
| 25. Seat belt buckle                          | 26. Seat cushion inner finisher inside (front) | 27. Seat cushion inner finisher outside |
| 28. Seat cushion inner finisher inside (rear) | 29. Seat cushion assembly                      | 30. Seat adjuster assembly              |

Refer to [GI-4, "Components"](#) for symbols in the figure.

## Removal and Installation


INFOID:000000009162949

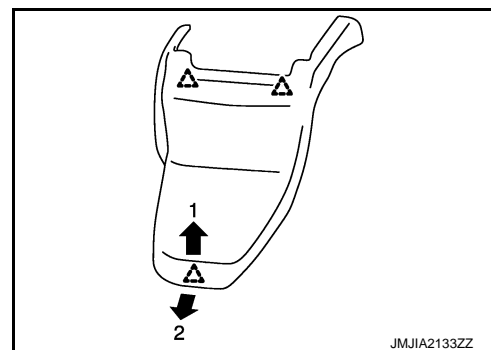
### REMOVAL

#### CAUTION:


**Use shop cloths to protect parts from damage during removal and installation.**

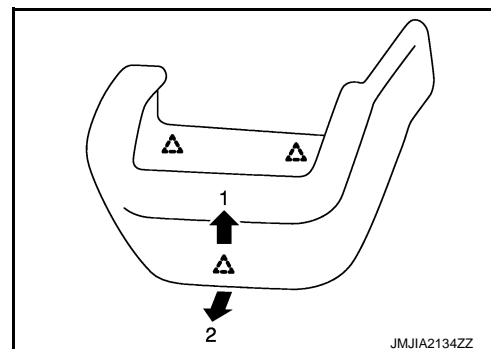
1. Operate the seat control switch knob to move the seat slide to the rearmost position.
2. Remove the front slide cover.
  - a. Front outer slide cover

 : Pawl




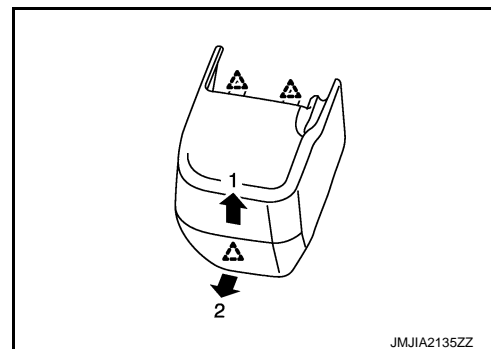
- b. Front inner slide cover

 : Pawl



3. Remove the mounting bolts from the front seat front side.
4. Operate the seat control switch knob to move the seat slide to the foremost position.
5. Remove the rear slide outer and inner covers.

 : Pawl



6. Remove the rear inner bolt cap (Driver seat only).
7. Remove the mounting bolts from the front seat rear side.
8. Set the seatback vertically.
9. Lift up the seat cushion front side, and disconnect the harness connector under the seat cushion and remove the harness clamp.

#### CAUTION:

## FRONT SEAT

### < REMOVAL AND INSTALLATION >

For the seat with side air bag, disconnect the battery cable from the negative terminal after checking that the ignition switch is OFF, wait for at least 3 minutes, and then disconnect the connector.

10. Remove the front seat from the vehicle.

**CAUTION:**

- Use shop cloths to protect parts from damage during removal and installation.
- Two people must perform removal and installation of the seat assembly to prevent damage or to keep from dropping it.

### INSTALLATION

Install in the reverse order of removal.

**CAUTION:**

- Always fix the harness clamp in the normal position.
- Be careful that only driver seat rear inner mounting bolt is different from others among the front seat mounting bolts.

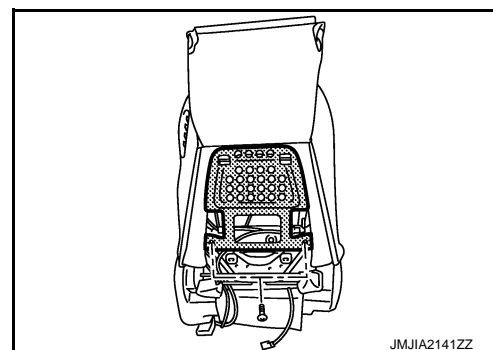
### Disassembly and Assembly

INFOID:000000009162950

#### Seatback

##### Disassembly

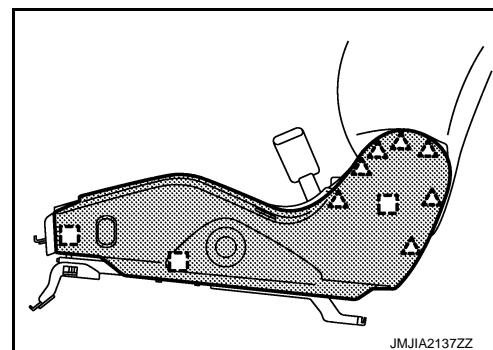
1. Unfasten the seatback trim fastener.
2. Remove the seatback trim lower retainer.
3. Remove the seatback (main).
  - Remove the seatback cover panel mounting screws, and then remove the seatback cover panel.



4. Remove the retainer and hog ring of the seatback assembly (main), and then remove the seatback assembly (main).
5. Remove the seat cushion outer finisher outside.

□ : Metal clip

△ : Pawl



6. Disconnect the connectors of seat control switch, heater switch, and thigh support (Driver seat only) switch.

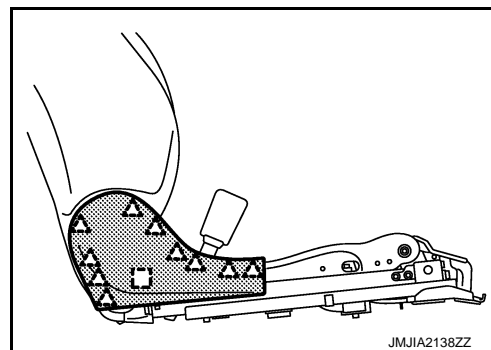
## FRONT SEAT

### < REMOVAL AND INSTALLATION >

7. Remove the seat cushion inner finisher outside.

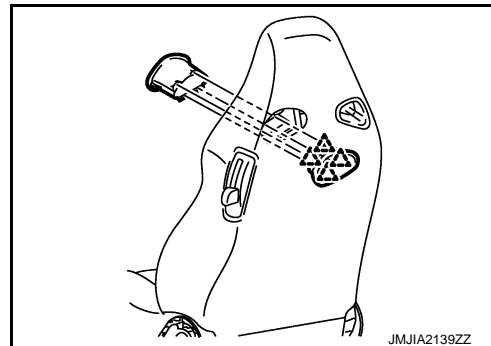
□ : Metal clip

△ : Pawl



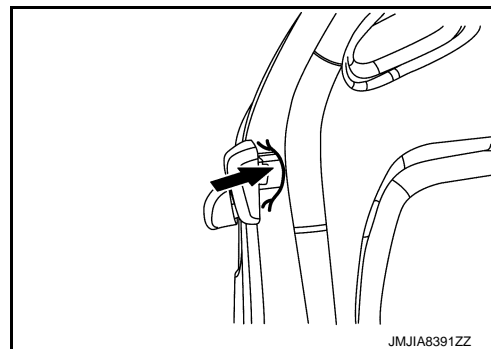
8. Remove the seatback ornament.

△ : Pawl



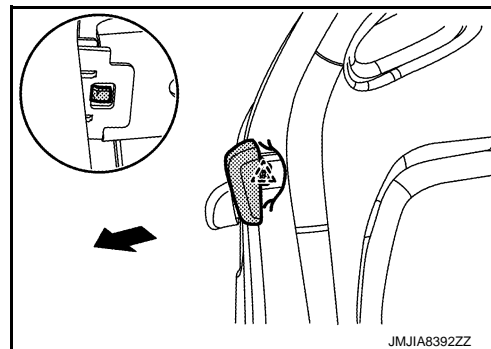
9. Remove knob.

- a. Press on the seatback surface near the knob mounting portion inward to expose the fixing portion of the knob.



- b. Disengage knob fixing pawl, and then remove knob.


△ : Pawl

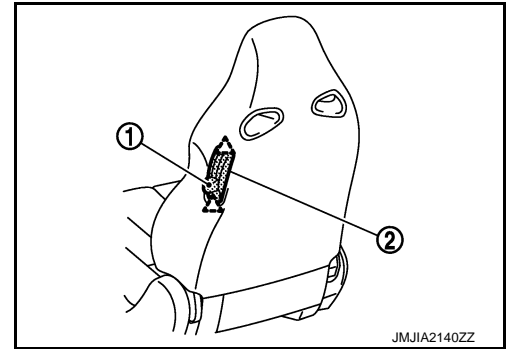


## FRONT SEAT

### < REMOVAL AND INSTALLATION >

10. Remove the walk-in lever knob (1) and walk-in lever escutcheon (2).

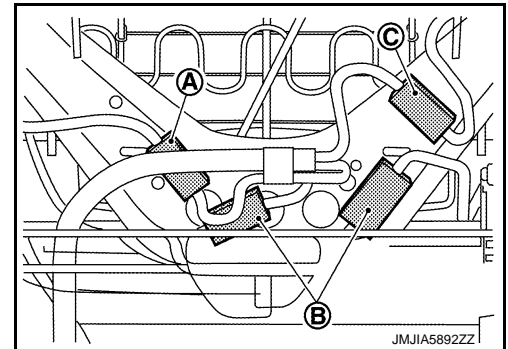
 : Pawl



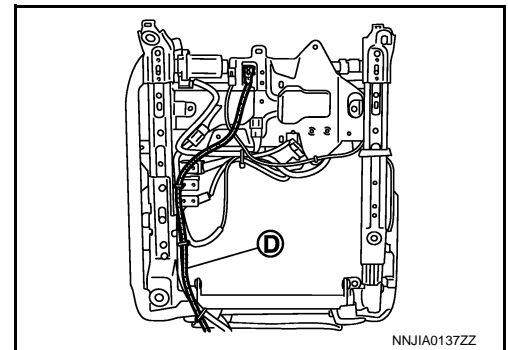
11. Disconnect the harness connector.

Driver side

1. Disconnect the reclining limit switch harness connector (A), the heater unit harness connectors (B), and the reclining motor harness connector (C).

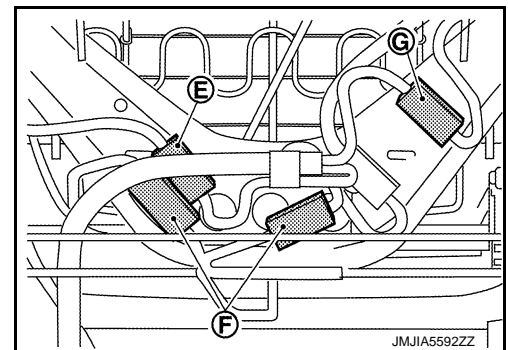


2. Remove the side air bag harness (D).



Passenger side

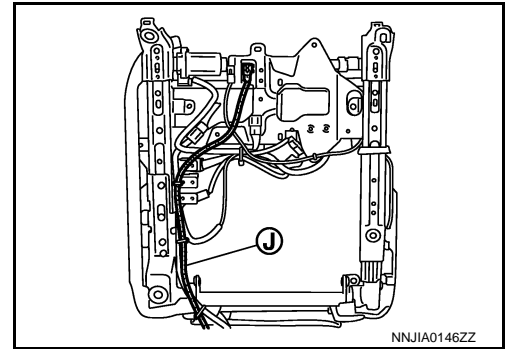
1. Disconnect the reclining motor harness connector (E), the heater unit harness connectors (F), and the reclining limit switch harness connector (G).



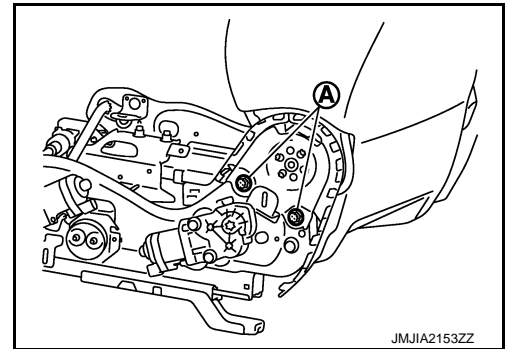
## FRONT SEAT

### < REMOVAL AND INSTALLATION >

2. Remove the side air bag harness (J).



12. Remove the seatback assembly.  
Remove the seatback assembly mounting bolts (A).



13. Remove the seat cushion outer finisher inside (front) and the seat cushion outer finisher inside (rear).
14. Remove the seat cushion inner finisher inside (front) and the seat cushion inner finisher inside (rear).
15. Remove the reclining device outer cover (outside) and the reclining device outer cover (inside).
16. Remove the reclining device inner cover (outside) and the reclining device inner cover (inside).

#### Assembly

Assemble in the reverse order of disassembly.

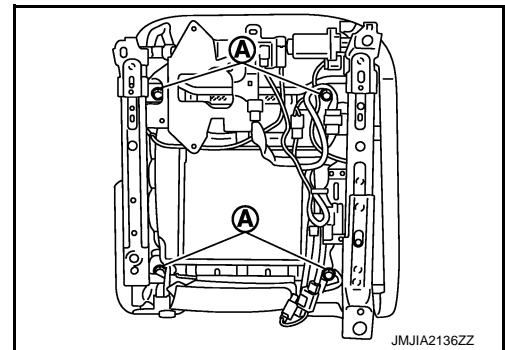
#### **CAUTION:**

**Install the hog rings of seatback trim in position, and then securely connect the trim or trim cord with the pad side wire.**

#### Seat cushion

##### Disassembly

1. Remove the seat cushion.
  - Disconnect the harness connector from the seat cushion heater unit.
  - Remove the seat cushion lower surface mounting bolts (A).



- Remove the seat cushion trim retainer from the lower rear of the seat cushion.

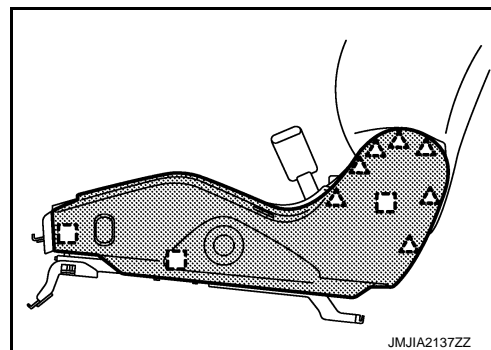
## FRONT SEAT

### < REMOVAL AND INSTALLATION >

2. Remove the seat cushion outer finisher outside.

□ : Metal clip

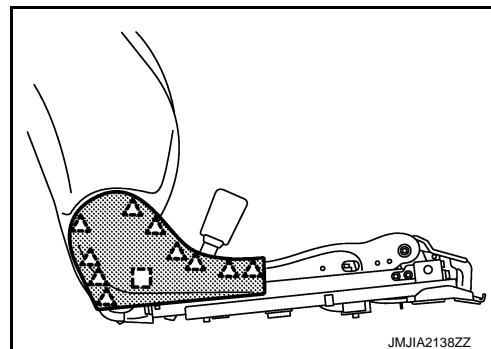
△ : Pawl



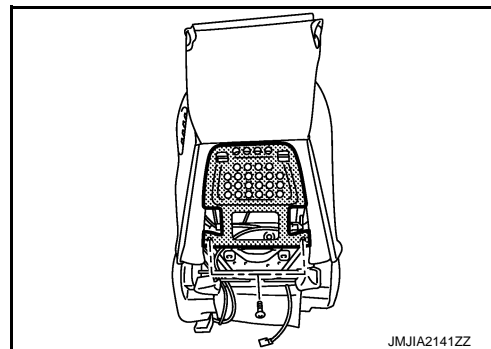
3. Disconnect the connectors of seat control switch, heater switch, and thigh support (driver seat only) switch.
4. Remove the seat cushion inner finisher outside.

□ : Metal clip

△ : Pawl



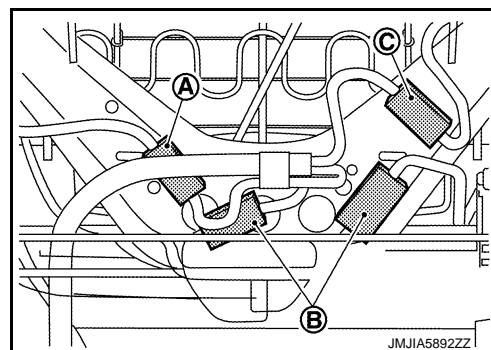
5. Remove the seatback trim retainer.
6. Remove the seatback panel.
  - Unfasten the seatback trim fastener.
  - Remove the seatback cover panel mounting screws, and then remove the seatback cover panel.



7. Disconnect the harness connector.

Driver side

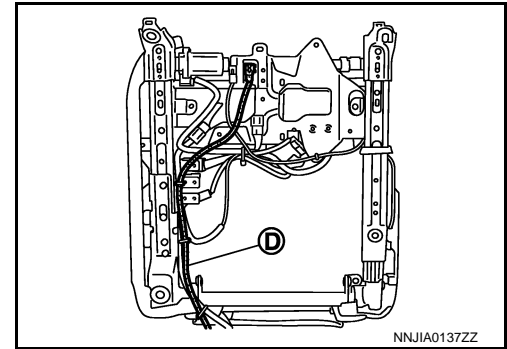
1. Disconnect the reclining limit switch harness connector (A), the heater unit harness connectors (B), and the reclining motor harness connector (C).



## FRONT SEAT

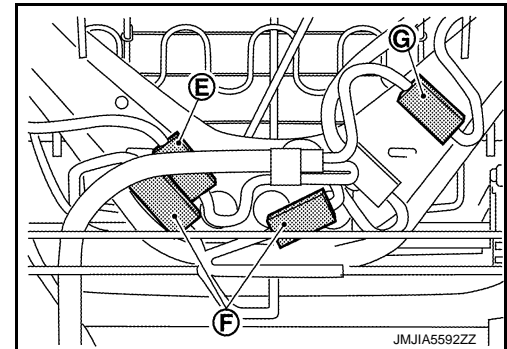
### < REMOVAL AND INSTALLATION >

2. Remove the side air bag harness (D).

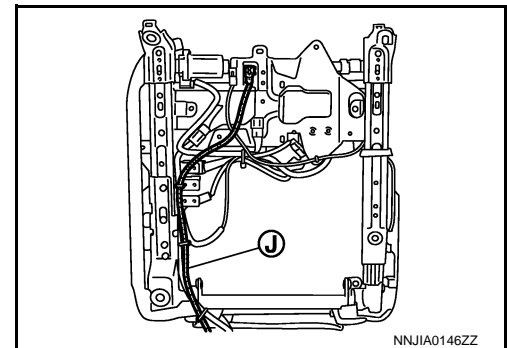


Passenger side

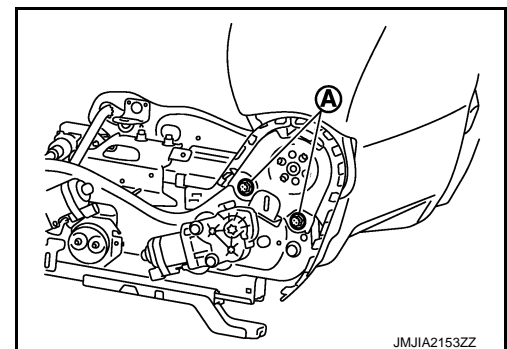
1. Disconnect the reclining motor harness connector (E), the heater unit harness connectors (F), and the reclining limit switch harness connector (G).



2. Remove the side air bag harness (J).



8. Remove the seatback assembly.  
Remove the seatback mounting bolts (A), and then remove the seatback assembly.



9. Remove the seat belt buckle. Refer to [SB-8. "SEAT BELT BUCKLE : Removal and Installation"](#).

Assembly

Assemble in the reverse order of disassembly.

#### **CAUTION:**

**Install the hog rings of seat cushion trim in position, and then securely connect the trim or trim cord with the pad side wire.**

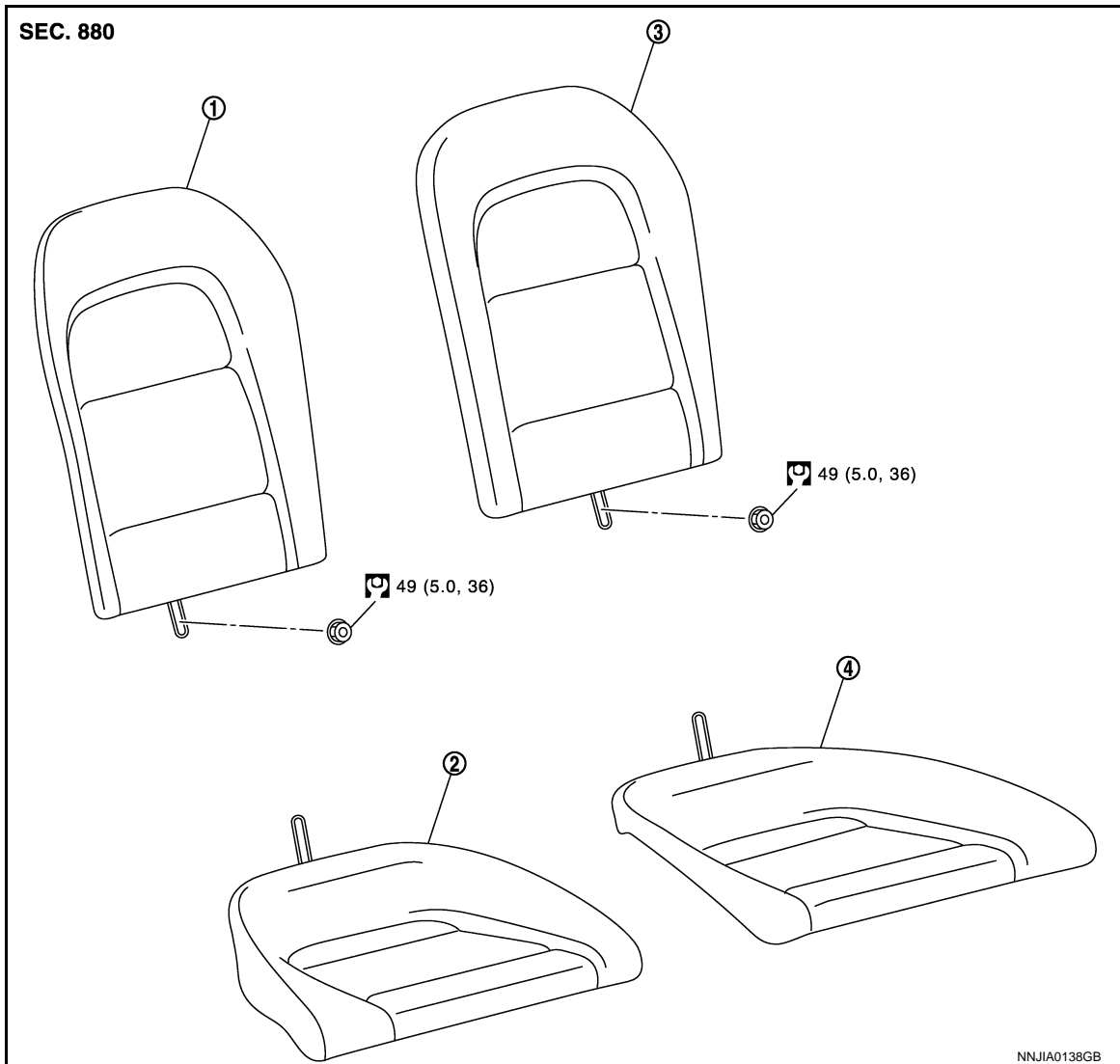
## REAR SEAT

< REMOVAL AND INSTALLATION >

### REAR SEAT

Exploded View

INFOID:000000009162951



1. Seatback (RH)

2. Seat cushion (RH)

3. Seatback (LH)

4. Seat cushion (LH)

Refer to [GI-4, "Components"](#) for symbols in the figure.

### Removal and Installation

INFOID:000000009162952

#### REMOVAL

##### **CAUTION:**

**Use shop cloths to protect parts from damage during removal and installation.**

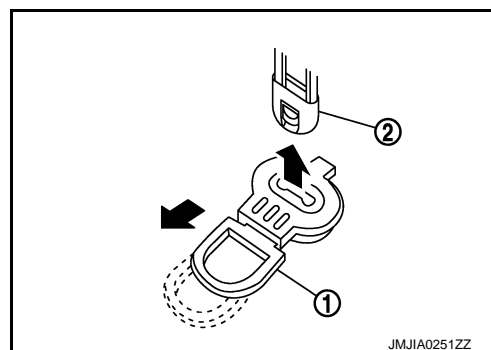
1. Remove the seat cushion.



## REAR SEAT

### < REMOVAL AND INSTALLATION >

- Lift up the seat cushion lower side, disengage the joint by pulling the ring (1) of the cushion hook on the front bottom, and then lift up the seat cushion (2) to remove the seat cushion.
- Remove the seat cushion from the vehicle.



2. Remove the seatback.
  - Remove the seatback lower mounting nut.
  - Remove the seatback from the vehicle.

### INSTALLATION

Install in the reverse order of removal.

#### **CAUTION:**

**Use shop cloths to protect parts from damage during removal and installation.**

A  
B  
C  
D  
E  
F  
G  
H  
I  
SE  
K  
L  
M  
N  
O  
P

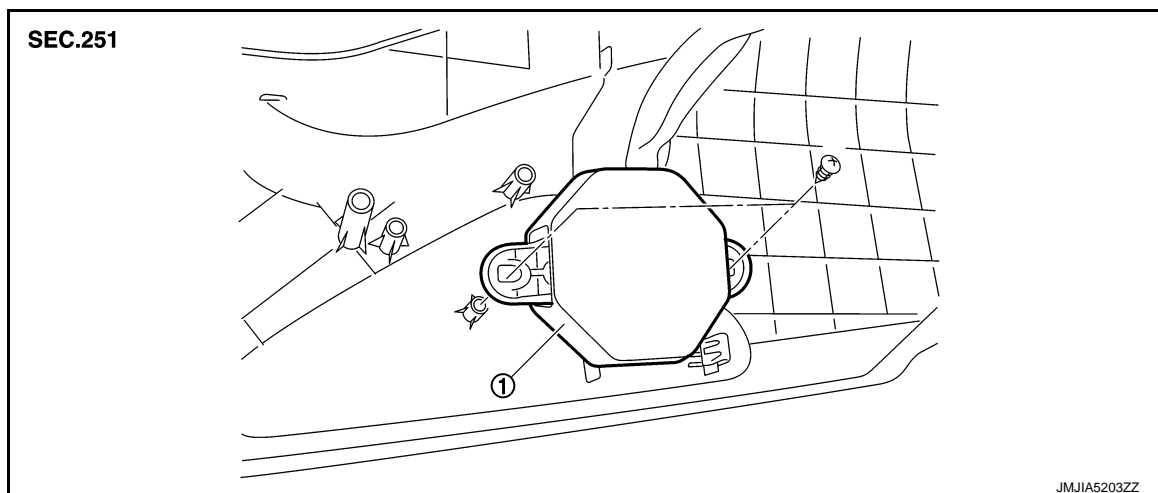
# POWER SEAT SWITCH

< REMOVAL AND INSTALLATION >

## POWER SEAT SWITCH

### Exploded View

INFOID:000000009162953



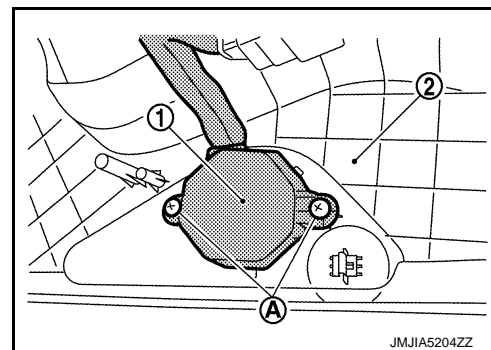
1. Power seat switch

### Removal and Installation

INFOID:000000009162954

#### REMOVAL

1. Remove the front seat. Refer to [SE-49, "Removal and Installation"](#).
2. Remove the seat cushion outer finisher (2). Refer to [SE-50, "Disassembly and Assembly"](#).
3. Remove the power seat switch knob.
4. Remove the screws (A).
5. Remove the power seat switch (1) from the seat cushion outer finisher (2).



#### INSTALLATION

Note the following, and install in the reverse order of removal.

#### CAUTION:

- When performing the work, use shop cloths to protect the parts from damage.
- Always fix the harness clamp in the normal position.

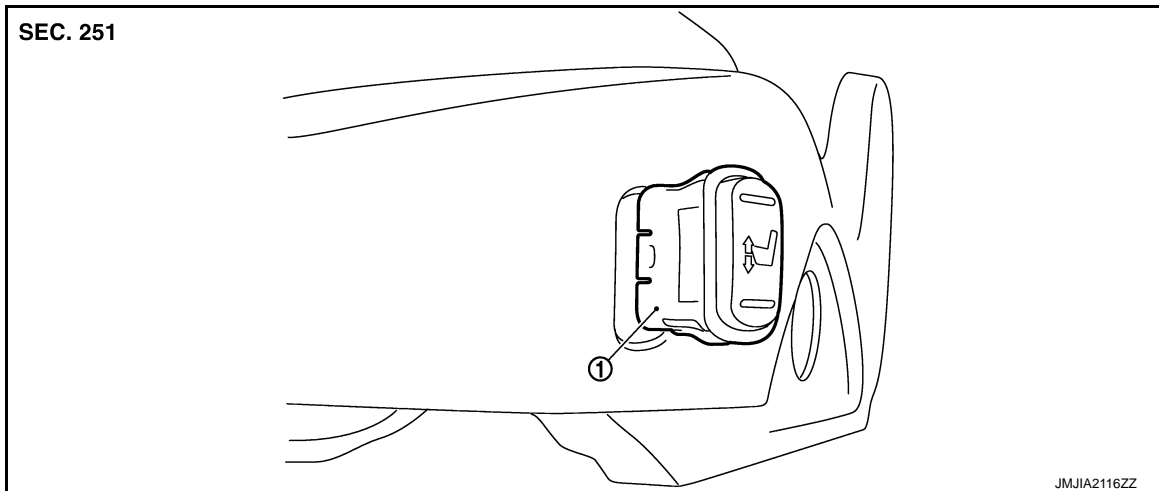
# THIGH SUPPORT SWITCH

< REMOVAL AND INSTALLATION >

## THIGH SUPPORT SWITCH

### Exploded View

INFOID:000000009162955



1. Thigh support switch

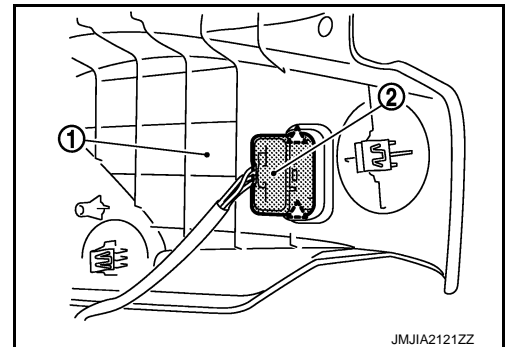
### Removal and Installation

INFOID:000000009162956

#### REMOVAL

1. Remove the front seat. Refer to [SE-49, "Removal and Installation"](#).
2. Disconnect the thigh support switch connector.
3. Remove the seat cushion outer finisher (1). Refer to [SE-50, "Disassembly and Assembly"](#).
4. Remove the thigh support switch (2) from the seat cushion outer finisher (1) while pressing the pawls.

△ : Pawl



#### INSTALLATION

Note the following, and install in the reverse order of removal.

#### CAUTION:

- When performing the work, use shop cloths to protect the parts from damage.
- Always fix the harness clamp in the normal position.

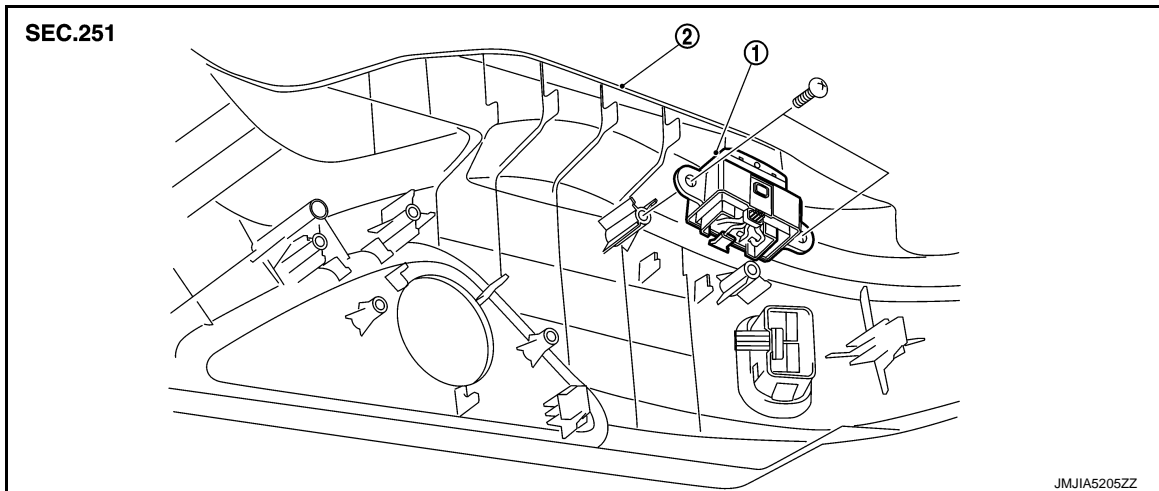
# HEATED SEAT SWITCH

< REMOVAL AND INSTALLATION >

## HEATED SEAT SWITCH

### Exploded View

INFOID:000000009162957



1. Heated seat switch

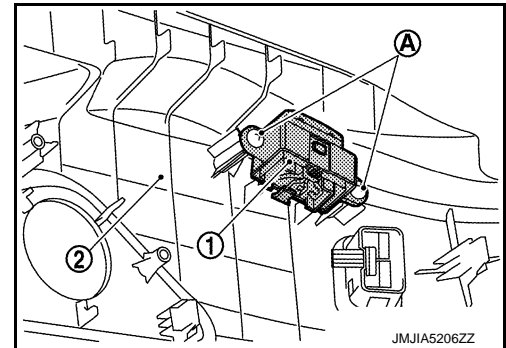
2. Seat cushion outer finisher

### Removal and Installation

INFOID:000000009162958

#### REMOVAL

1. Remove the front seat. Refer to [SE-49. "Removal and Installation"](#).
2. Remove the seat cushion outer finisher (2). Refer to [SE-50. "Disassembly and Assembly"](#).
3. Remove the screws (A).
4. Remove the heater seat switch (1) from the seat cushion outer finisher (2).



#### INSTALLATION

Note the following, and install in the reverse order of removal.

#### CAUTION:

- When performing the work, use shop cloths to protect the parts from damage.
- Always fix the harness clamp in the normal position.