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2011 NISSAN Altima OEM Service and Repair Workshop Manual

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SIEMD-7197289

1. CHECK SYSTEM MAIN RELAY 2 GROUND CIRCUIT

Check system main relay 2 ground circuit. Refer to Diagnosis Procedure.

Is the inspection result normal?

YES>>

GO TO 2 .

NO>>

Repair or replace error-detected parts, GO TO 3 .

2. CHECK SYSTEM MAIN 2 RELAY CIRCUIT

Check system main relay 2 circuit. Refer to Diagnosis Procedure(66kWh LI-ION BATTERY), Diagnosis Procedure(91kWh LI-ION BATTERY).

Is the inspection result normal?

YES>>

INSPECTION END

NO>>

Repair or replace error-detected parts, GO TO 3 .

3. PERFORM CONFIRMATION PROCEDURE AGAIN

1. Erase DTC.
2. Perform DTC confirmation procedure again. Refer to Confirmation Procedure.

Is DTC P168E-12 detected again?

YES>>

Replace VCM. Refer to VCM : Removal & Installation.

NO>>

INSPECTION END

SIEMD-7197290

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detecting condition	
P168E	13	System main relay	Diagnosis condition	Power switch ON (During system main relay 2 OFF command)
			Signal	System main relay 2 drive signal
			Threshold	An opening in system main relay 2 drive circuit is detected
			Detection time	—

POSSIBLE CAUSE

- Harness and connector (System main relay 2 circuit is open)
- System main relay 2

FAIL-SAFE

High-voltage system is normally stopped

1. PRECONDITIONING

1. Press the power switch for at least 2 seconds to turn the high voltage system OFF and then check that the charging status indicator is not illuminated.

NOTE:
When the high voltage system is turned ON, the charging status indicator blinks green with a frequency of 1 second.

2. After the high voltage system is turned OFF, open the driver's side door, get out of the vehicle, close the driver's side door and wait for at least 5 minutes.

CAUTION:
- **Since the auto ACC function causes the accessory power to be turned ON, do not perform any vehicle operation including locking the doors or opening and closing of the doors during the standby state.**

  If an operation is performed, wait an additional 5 minutes from that time.

- **Check that 12V battery voltage is 11 V or more.**

>>

GO TO 2 .

2. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Set the vehicle to READY and wait at least 10 seconds.
2. Check self-diagnostic result in “EV/HEV”.

Is DTC detected?

YES>>

Refer to DTC Diagnosis Procedure.

NO-1>>

To check malfunction symptom before repair: Refer to Intermittent Incident.

NO-2>>

Confirmation after repair: INSPECTION END

SIEMD-7197292

1. CHECK SYSTEM MAIN RELAY 2 GROUND CIRCUIT

Check system main relay 2 ground circuit. Refer to Diagnosis Procedure.

Is the inspection result normal?

YES>>

GO TO 2.

NO>>

Repair or replace error-detected parts, GO TO 3.

2. CHECK SYSTEM MAIN 2 RELAY CIRCUIT

Check system main relay 2 circuit. Refer to Diagnosis Procedure(66kWh LI-ION BATTERY), Diagnosis Procedure(91kWh LI-ION BATTERY).

Is the inspection result normal?

YES>>

INSPECTION END

NO>>

Repair or replace error-detected parts, GO TO 3.

3. PERFORM CONFIRMATION PROCEDURE AGAIN

1. Erase DTC.
2. Perform DTC confirmation procedure again. Refer to Confirmation Procedure.

Is DTC P168E-13 detected again?

YES>>

Replace VCM. Refer to VCM : Removal & Installation.

NO>>

INSPECTION END

SIEMD-7197293

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detecting condition	
P168E	73	System main relay	Diagnosis condition	READY (Immediately after pre-charge relay is set to ON)
			Signal	CAN communication
			Threshold	After pre-charge relay ON command and before system main relay 2 ON command, the inverter (front) voltage is more than the specified value
			Detection time	—

POSSIBLE CAUSE

- System main relay 2 (stuck closed)
- VCM

FAIL-SAFE

High-voltage system is normally stopped

1. PRECONDITIONING

1. Press the power switch for at least 2 seconds to turn the high voltage system OFF and then check that the charging status indicator is not illuminated.

NOTE:
When the high voltage system is turned ON, the charging status indicator blinks green with a frequency of 1 second.

2. After the high voltage system is turned OFF, open the driver's side door, get out of the vehicle, close the driver's side door and wait for at least 5 minutes.

CAUTION:
- **Since the auto ACC function causes the accessory power to be turned ON, do not perform any vehicle operation including locking the doors or opening and closing of the doors during the standby state.**

  If an operation is performed, wait an additional 5 minutes from that time.

- **Check that 12V battery voltage is 11 V or more.**

>>

GO TO 2 .

2. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Set the vehicle to READY and wait at least 10 seconds.
2. Check self-diagnostic result in “EV/HEV”.

Is DTC detected?

YES>>

Refer to DTC Diagnosis Procedure.

NO-1>>

To check malfunction symptom before repair: Refer to Intermittent Incident.

NO-2>>

Confirmation after repair: INSPECTION END

SIEMD-7197295

1. CHECK DTC PRIORITY

If DTC P168E-73 is displayed with P168A-11, P168A-12, P168A-13, P168D-11, P168D-12, P168D-13, P168E-11, P168E-12 or P168E-13, first perform the trouble diagnosis for P168A-11, P168A-12, P168A-13, P168D-11, P168D-12, P168D-13, P168E-11, P168E-12 or P168E-13.

Is applicable DTC detected?

YES>>

Perform trouble diagnosis for applicable DTC. Refer to DTC Index.

NO>>

GO TO 2.

2. CHECK SYSTEM MAIN RELAY DRIVE CIRCUIT VOLTAGE

1. Power switch OFF.
2. Disconnect Li-ion battery harness connector (E9).
3. Power switch ON.
4. Check voltage between Li-ion battery and ground.

+	−	Voltage
Li-ion battery		
Terminal		
19	Ground	More than approximately 10V
26		
33		

Is the inspection result normal?

YES>>

INSPECTION END

NO>>

GO TO 3.

3. CHECK LBC POWER SUPPLY CIRCUIT

Check LBC power supply circuit. Refer to Diagnosis Procedure(66kWh LI-ION BATTERY), Diagnosis Procedure(91kWh LI-ION BATTERY).

Is the inspection result normal?

YES>>

Check Li-ion battery internal circuit. Refer to Circuit Diagram(66kWh LI-ION BATTERY), Circuit Diagram(91kWh LI-ION BATTERY).

NO>>

Repair or replace error-detected parts.

SIEMD-7196889

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detecting condition	
P102C	01	Component Indicating a Failure	Diagnosis condition	During quick charge
			Signal	• Quick charge relay 1 drive signal • Quick charge relay 2 drive signal
			Threshold	Quick charge relay 1 or quick charge relay 2 drive circuit is detected to be open, shorted to ground or shorted to power supply
			Detection time	More than 4 seconds

POSSIBLE CAUSE

- Harness and connector (Quick charge relay 1 circuit)
- Harness and connector (Quick charge relay 2 circuit)
- VCM

FAIL-SAFE

Quick charge is prohibited