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2010 NISSAN Altima Coupe OEM Service and Repair Workshop Manual

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Diagnosis Procedure

SIEMD-7376984

WARNING:

Since hybrid vehicles and electric vehicles contain a high voltage battery, there is the risk of electric shock, electric leakage, or similar accidents if the high voltage component and vehicle are handled incorrectly. Be sure to follow the correct work procedures when performing inspection and maintenance.

WARNING:

- **Be sure to remove the service plug in order to disconnect the high voltage circuits before performing inspection or maintenance of high voltage system harnesses and parts.**
- **The removed service plug must always be carried in a pocket of the responsible worker or placed in the tool box during the procedure to prevent the plug from being connected by mistake.**
- **Be sure to wear insulating protective equipment consisting of glove, shoes, face shield and glasses before beginning work on the high voltage system.**
- **Never allow workers other than the responsible person to touch the vehicle containing high voltage parts. To keep others from touching the high voltage parts, these parts must be covered with an insulating sheet except when using them.**
- **Refer to HIGH VOLTAGE PRECAUTIONS : Precautions.**

CAUTION:

Never bring the vehicle into the READY status with the service plug removed unless otherwise instructed in the Service Manual. A malfunction may occur if this is not observed.

1. PRECONDITIONING-1

WARNING:

Be sure to disconnect the high voltage and check residual voltage before work starts.

1. Disconnect the high voltage. Refer to HOW TO DISCONNECT HIGH VOLTAGE : Precautions.
2. Check voltage of high voltage circuit. Refer to CHECK VOLTAGE IN HIGH VOLTAGE CIRCUIT : Precautions.

>>

GO TO 2.

2. CHECK CONTINUITY BATTERY PTC VEHICLE COMMUNICATION CIRCUIT

1. Remove vehicle communication harness connector and vehicle communication harness connector (Battery PTC) connector.
2. Check continuity between vehicle communication harness connector and vehicle communication harness connector (Battery PTC) and vehicle communication harness connector (Battery PTC).

Vehicle communication harness connector		Vehicle communication harness connector (Battery PTC)		Continuity
Connector	Terminal	Connector	Terminal	
LB2	17	LB25	17	Exist
	27		15	
	30		23	

3. Check harness for short to ground and short to lines.

Is inspection result normal?

YES>>

- When checking only battery PTC vehicle communication: INSPECTION END
- When also checking battery high voltage circuit: GO TO 5.

NO>>

GO TO 3.

3. PRECONDITIONING-2

WARNING:
Be sure to disconnect the high voltage and check residual voltage before work starts.

1. Remove Li-ion battery from vehicle. Refer to Removal & Installation.
2. Remove battery pack upper case. Refer to Removal & Installation.

>>

GO TO 4.

4. CHECK CONNECTOR CONNECTING CONDITION

Check connection status of intermediate connector (LB20).

NOTE:
Pull connector first then push connector to check connection. Since if connector is pressed first, connector may be locked, malfunction cannot be found.

Is the inspection result normal?

YES>>

Repair replace Li-ion battery vehicle communication harness.

NO>>

Repair harness connector connection.

5. PRECONDITIONING-3

WARNING:
Be sure to disconnect the high voltage and check residual voltage before work starts.

1. Remove Li-ion battery from vehicle. Refer to Removal & Installation.
2. Remove battery pack upper case. Refer to Removal & Installation.

>>

GO TO 6.

6. CHECK CONNECTOR CONNECTING CONDITION

Check connection status of the junction box connector (LB6 and LB7), and intermediate connector (LB23 and LB22).

NOTE:
Pull connector first then push connector to check connection. Since if connector is pressed first, connector may be locked, malfunction cannot be found.

Is the inspection result normal?

YES>>

GO TO 7.

NO>>

Repair harness connector connection.

7. CHECK BATTERY PTC FUSE

Check battery PTC fuse. Refer to Component Inspection.

Is the inspection result normal?

YES>>

GO TO 8.

NO>>

Replace junction box.

8. CHECK CONTINUITY BETWEEN HARNESS CONNECTORS OF JUNCTION BOX AND BATTERY PTC.

1. Remove harness connectors of junction box and battery PTC.
2. Check continuity between harness connectors of junction box and battery PTC.

Junction box		Battery PTC		Continuity
Connector	Terminal	Connector	Terminal	
LB6	P12	LB24	N	0Ω approx.
LB7	P11		P	

Is the inspection result normal?

YES>>

INSPECTION END

NO>>

Replace high voltage harness battery PTC.

Diagnosis Procedure

SIEMDU-728234

WARNING:

Since hybrid vehicles and electric vehicles contain a high voltage battery, there is the risk of electric shock, electric leakage, or similar accidents if the high voltage component and vehicle are handled incorrectly. Be sure to follow the correct work procedures when performing inspection and maintenance.

WARNING:

- **Be sure to remove the service plug in order to disconnect the high voltage circuits before performing inspection or maintenance of high voltage system harnesses and parts.**
- **The removed service plug must always be carried in a pocket of the responsible worker or placed in the tool box during the procedure to prevent the plug from being connected by mistake.**
- **Be sure to wear insulating protective equipment consisting of glove, shoes, face shield and glasses before beginning work on the high voltage system.**
- **Never allow workers other than the responsible person to touch the vehicle containing high voltage parts. To keep others from touching the high voltage parts, these parts must be covered with an insulating sheet except when using them.**
- **Refer to HIGH VOLTAGE PRECAUTIONS : Precautions.**

CAUTION:

Never bring the vehicle into the READY status with the service plug removed unless otherwise instructed in the Service Manual. A malfunction may occur if this is not observed.

1. PRECONDITIONING-1

WARNING:

Be sure to disconnect the high voltage and check residual voltage before work starts.

1. Disconnect the high voltage. Refer to HOW TO DISCONNECT HIGH VOLTAGE : Precautions.
2. Check voltage of high voltage circuit. Refer to CHECK VOLTAGE IN HIGH VOLTAGE CIRCUIT : Precautions.
3. Remove Li-ion battery from vehicle. Refer to Removal & Installation(2WD) or Removal & Installation(AWD).
4. Remove battery pack upper case. Refer to Removal & Installation.

>>

GO TO 2.

2. CHECK CONNECTOR CONNECTING CONDITION

Check connection status of the junction box harness connector.

NOTE:

Pull connector first then push connector to check connection. Since if connector is pressed first, connector may be locked, malfunction cannot be found.

Is the inspection result normal?

YES>>

GO TO 3.

NO>>

Repair harness connector connection.

3. CHECK CONTINUITY BETWEEN JUNCTION BOX AND LBC

1. Disconnect junction box harness connector.
2. Disconnect LBC harness connector.
3. Check continuity between junction box harness connector and LBC harness connector.

High Voltage Relay Thermistor Circuit

Junction box connector		LBC		Continuity
Connector	Terminal	Connector	Terminal	
LB11	S16	LB17	25	Exist
	S19		26	

4. Check harness for short to ground and short to lines.

Is inspection result normal?

YES>>

Replace battery junction box. Refer to Disassembly & Assembly.

NO>>

Repair or Replace harness.

Diagnosis Procedure

SIEMD-7377077

WARNING:

Since hybrid vehicles and electric vehicles contain a high voltage battery, there is the risk of electric shock, electric leakage, or similar accidents if the high voltage component and vehicle are handled incorrectly. Be sure to follow the correct work procedures when performing inspection and maintenance.

WARNING:

- **Be sure to remove the service plug in order to disconnect the high voltage circuits before performing inspection or maintenance of high voltage system harnesses and parts.**
- **The removed service plug must always be carried in a pocket of the responsible worker or placed in the tool box during the procedure to prevent the plug from being connected by mistake.**
- **Be sure to wear insulating protective equipment consisting of glove, shoes, face shield and glasses before beginning work on the high voltage system.**
- **Never allow workers other than the responsible person to touch the vehicle containing high voltage parts. To keep others from touching the high voltage parts, these parts must be covered with an insulating sheet except when using them.**
- **Refer to HIGH VOLTAGE PRECAUTIONS : Precautions.**

CAUTION:

Never bring the vehicle into the READY status with the service plug removed unless otherwise instructed in the Service Manual. A malfunction may occur if this is not observed.

1. PRECONDITIONING-1

WARNING:

Be sure to disconnect the high voltage and check residual voltage before work starts.

1. Disconnect the high voltage. Refer to HOW TO DISCONNECT HIGH VOLTAGE : Precautions.
2. Check voltage of high voltage circuit. Refer to CHECK VOLTAGE IN HIGH VOLTAGE CIRCUIT : Precautions.
3. Remove Li-ion battery. Refer to Removal & Installation.
4. Remove battery pack upper case. Refer to Removal & Installation.

>>

GO TO 2.

2. CHECK CONNECTOR CONNECTION CONDITION

Check the connection status of the LBC harness connector and junction box harness connectors.

NOTE:

Pull the connector first then push the connector to confirm a connection. Since if connector is pressed first, connector may be locked, malfunction cannot be found.

Is the inspection result normal?

YES>>

GO TO 3.

NO>>

Repair harness connector connection.

3. CHECK CONTINUITY BETWEEN BATTERY CURRENT SENSOR (BATTERY JUNCTION BOX) AND LBC HARNESS CONNECTOR

1. Remove LBC harness connector and battery junction box harness connector.
2. Check continuity LBC harness connector and battery junction box harness connector.

Battery junction box		LBC		Continuity
Connector	Terminal	Connector	Terminal	
LB11	S11	LB17	17	Exist
	S12		18	
	S13	LB18	41	
	S14		35	

3. Check harness for short to ground and short to lines.

Is inspection result normal?

YES>>

Replace battery junction box. Refer to Disassembly & Assembly.

NO>>

Repair or replace Li-ion battery vehicle communication harness.

Component Inspection

SIEMD-7377405

WARNING:

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WARNING:

- **Be sure to remove the service plug in order to disconnect the high voltage circuits before performing inspection or maintenance of high voltage system harnesses and parts.**
- **The removed service plug must always be carried in a pocket of the responsible worker or placed in the tool box during the procedure to prevent the plug from being connected by mistake.**
- **Be sure to wear insulating protective equipment consisting of glove, shoes, face shield and glasses before beginning work on the high voltage system.**
- **Never allow workers other than the responsible person to touch the vehicle containing high voltage parts. To keep others from touching the high voltage parts, these parts must be covered with an insulating sheet except when using them.**
- **Refer to HIGH VOLTAGE PRECAUTIONS : Precautions.**

CAUTION:

Never bring the vehicle into the READY status with the service plug removed unless otherwise instructed in the Service Manual. A malfunction may occur if this is not observed.

1. REMOVE SERVICE PLUG

1. Remove service plug Refer to HOW TO DISCONNECT HIGH VOLTAGE : Precautions.

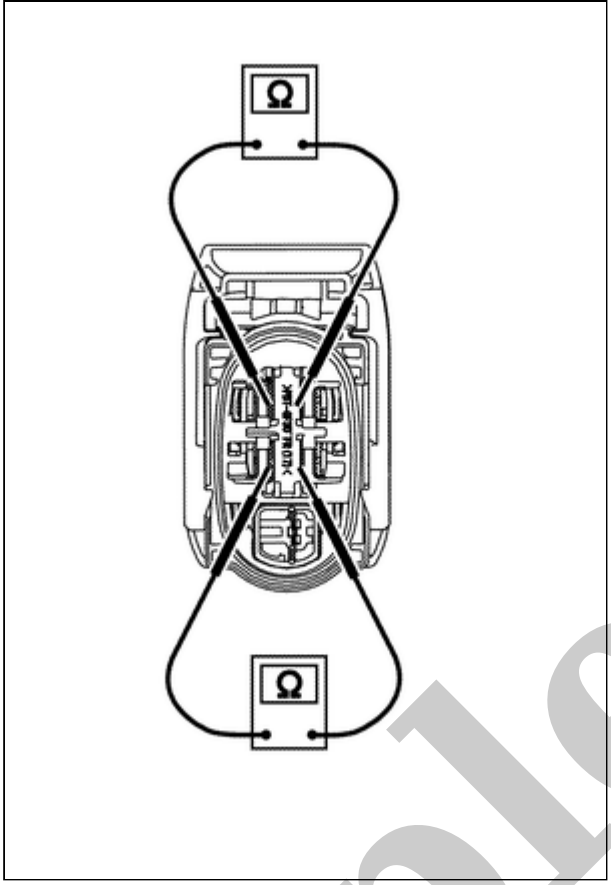
>>

GO TO 2.

2. CHECK SERVICE PLUG

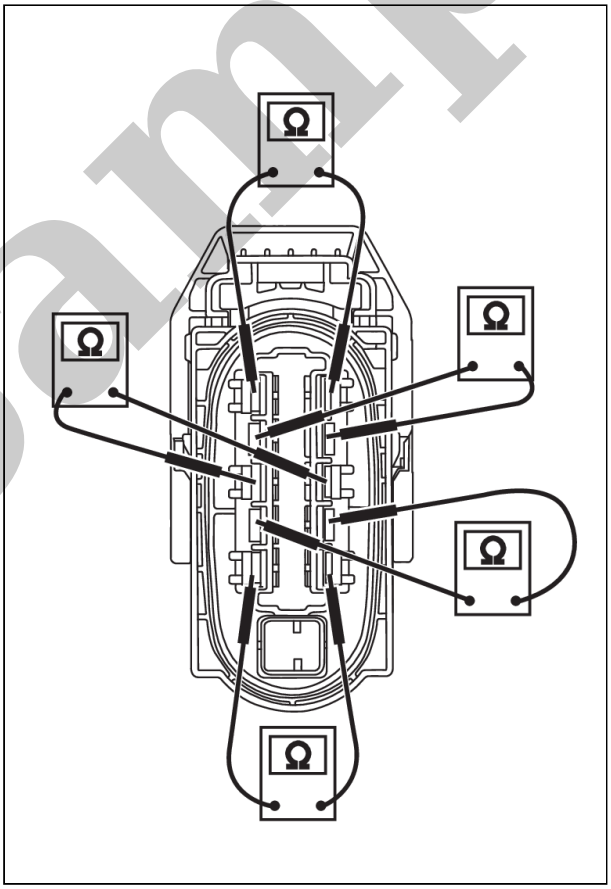
1. Check service plug high voltage terminal visually for arc marks, corrosion, damage, and foreign matter adhesion.
2. Check continuity of service plug high voltage terminal.

TYPE A



SIEMD-7057924-02-000375302

TYPE B



SIEMD-7057924-ILLU-000009940

Value:	0 Ω approx.

Is the inspection result normal?

YES>>

INSPECTION END

NO>>