

Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

2010 NISSAN Cube OEM Service and Repair Workshop Manual

[Go to manual page](#)

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

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 BATTERY PACK WATER TEMPERATURE SENSOR

1. Disconnect battery pack water temperature sensor harness connector.
2. Check resistance of battery pack water temperature sensor.

Battery pack water temperature sensor		Condition	Resistance
Terminal			
+	-	25 °C	3960 Ω - 4040 Ω

Is the inspection result normal?

YES>>

INSPECTION END

NO>>

Replace battery pack water temperature sensor.

Sample

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. SERVICE PLUG REMOVING

Remove the service plug. Refer to [HOW TO DISCONNECT HIGH VOLTAGE : Precautions](#).

Is installation normal?

YES>>

[GO TO 2.](#)

NO>>

Install service plug properly.

2. CHECK CONNECTION STATUS OF HIGH VOLTAGE HARNESS CONNECTOR (BATTERY PTC)

WARNING:

Be sure to disconnect the high voltage. Refer to [HOW TO DISCONNECT HIGH VOLTAGE : Precautions](#).

Check connection status of high voltage harness connector (Battery PTC) harness connector (Connector lock and interlock status).

Is connection status normal?

YES>>

[GO TO 3.](#)

NO>>

Connect high voltage harness connector (Battery PTC) properly.

3. CHECK INTERLOCK DETECTING SWITCH (BATTERY PTC)

Check interlock detecting switch (Battery PTC). Refer to [Component Inspection](#).

Is the inspection result normal?

YES>>

[GO TO 4.](#)

NO>>

Replace battery coolant heater.

4. REMOVE LI-ION BATTERY

1. Remove Li-ion battery. Refer to [Removal & Installation](#).
2. Remove battery pack upper case. Refer to [Removal & Installation](#).

>>

[GO TO 5.](#)

5. CHECK CONNECTOR CONNECTION CONDITION

Check the connection status of the LBC harness connector and interlock detecting switch high voltage harness connector (Battery PTC) 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 6.](#)

NO>>

Repair harness connector connection.

6. CHECK CONTINUITY INTERLOCK DETECTING CIRCUIT HARNESS

1. Remove LBC harness connector and interlock detecting switch (Battery PTC) harness connectors.
2. Check continuity LBC harness connector and interlock detecting switch (Battery PTC) harness connector.

LBC		Interlock detecting switch (Battery PTC)		Continuity
Connector	Terminal	Connector	Terminal	
LB18	39	LB19	39	Exist
	33		33	

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

YES>>

[GO TO 7.](#)

NO>>

Repair or replace Li-ion battery vehicle communication harness.

7. CHECK HIGH VOLTAGE HARNESS CONNECTOR (BATTERY PTC)

1. Check continuity between high voltage harness connector (Battery PTC) and interlock detecting switch (Battery PTC) harness connector.

High voltage harness connector (Battery PTC)		Interlock detecting switch (Battery PTC)		Continuity
Connector	Terminal	Connector	Terminal	
LB24	2	LB19	39	Exist
	1		33	

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

YES>>

INSPECTION END

NO>>

Replace battery coolant heater (PTC).

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. PRECONTIONING

WARNING:

Perform the following procedure before work starts.

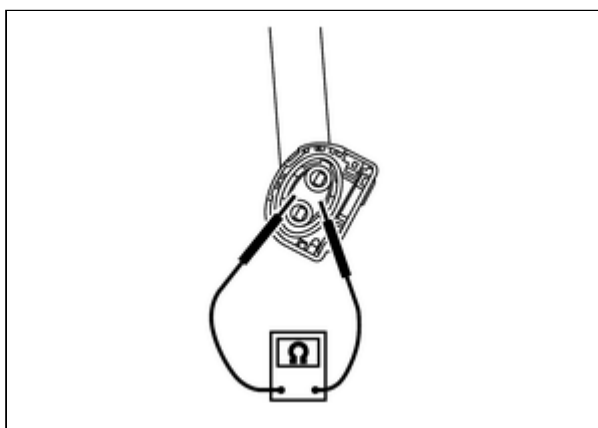
1. Disconnect the high voltage. Refer to [HOW TO DISCONNECT HIGH VOLTAGE : Precautions.](#)
2. Check voltage of high voltage circuit. Refer to [CHECK VOLTAGE IN HIGH VOLTAGE CIRCUIT : Precautions.](#)

>>

[GO TO 2.](#)

2. CHECK INTERLOCK DETECTING SWITCH (BATTERY PTC)

1. Check that terminals are not a corrosion, a bend, a break or a damage.
2. Check the continuity between terminals.



Value:

0 Ω approx.

Is the inspection result normal?

YES>>

INSPECTION END

NO>>

Replace battery coolant heater (PTC).

Sample

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 [PRECAUTIONS FOR HIGH VOLTAGE : 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.

**NOTE:**

To check a stable value, have time enough after putting a probe.

CAUTION:

- The following diagnosis procedure must be performed when “P1BA2-49” are detected and Li-ion battery is judged that its insulation resistance is dropping.
- Be sure to perform procedure till the last. And write down a memo about the malfunctioning parts. Insulation resistance may be lost in some parts.

1. CHECK MAXIMUM CELL VOLTAGE

 With CONSULT

1. Power switch ON.
2. Select “Data Monitor” of “HIGH VOLTAGE BATTERY”.
3. Record “Maximum cell voltage”.

**NOTE:**

When procedure for replacing malfunction module is required, “MAXIMUM CELL VOLTAGE” is used.

>>

[GO TO 2.](#)

2. PRECONDITIONING

WARNING:

Be sure to perform the high voltage disconnection and voltage check in high voltage circuit before inspection.

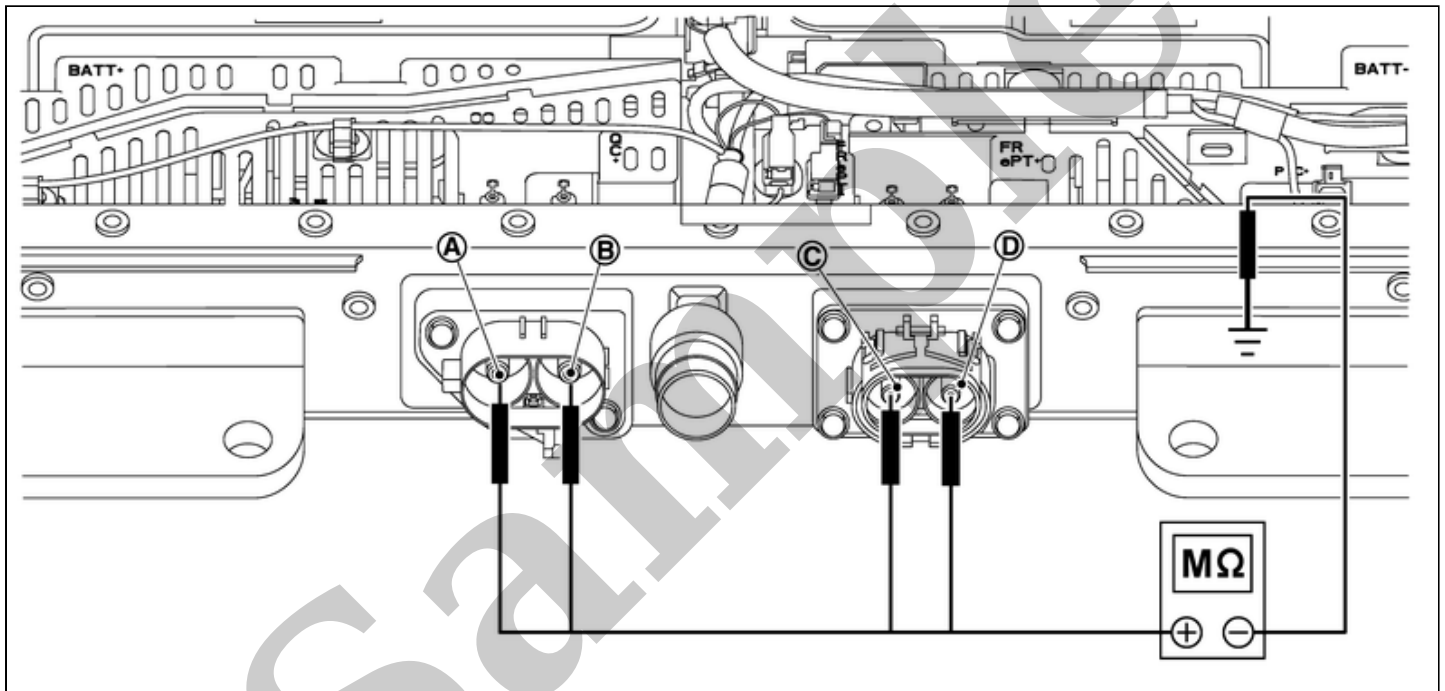
1. Disconnect the high voltage. Refer to [HOW TO DISCONNECT HIGH VOLTAGE : Precautions.](#)
2. Check voltage in high voltage circuit. Refer to [CHECK VOLTAGE IN HIGH VOLTAGE CIRCUIT : Precautions.](#)
3. Remove Li-ion battery. Refer to [Removal & Installation.](#)
4. Remove battery pack upper case. Refer to [Removal & Installation.](#)
5. Remove LBC. Refer to [Removal & Installation.](#)

>>

[GO TO 3.](#)

3. CHECK INSULATION RESISTANCE OF HIGH-VOLTAGE CONNECTOR (FRONT) AND HIGH-VOLTAGE CONNECTOR (QUICK CHARGE)

Using insulation resistance tester, measure insulation resistance between terminals of high-voltage connector (front) and high voltage connector (quick charge).



SIEMD-7377271-01-000367601

Probe		Resistance
+	-	
High-voltage connector (Front) terminal (A)	Battery pack lower case	1000 MΩ or more
High-voltage connector (Front) terminal (B)		
High-voltage connector (Quick charge) terminal (C)		
High-voltage connector (Quick charge) terminal (D)		

WARNING:

Unlike the ordinary tester, the insulation resistance tester applies 500 V when measuring.

If used incorrectly, there is the danger of electric shock. If used in the vehicle 12 V system, there is the danger of damage to electronic devices. Read the insulation resistance tester instruction manual carefully and be sure to work safely.

CAUTION:

- Be sure to set the insulation resistance tester to 500 V when performing this test.
- Using a setting higher than 500 V can result in damage to the component being inspected.