

# 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.

## 2009 NISSAN Grand Livina OEM Service and Repair Workshop Manual

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- Since testers are polarized, check the polarity of the tester and connect it in the forward direction to the circuit.
- If the inspection results show no continuity, check the parts for proper installation.

Is the inspection result normal?

YES>>

Replace Li-ion battery controller. Refer to [Removal & Installation](#).

NO>>

Repair or replace malfunctioning parts.

Sample

# Wiring Diagram

Click Link to [Wiring Diagram](#).

Sample

If a malfunction (e.g. abnormal voltage) occurs in a Li-ion battery cell, the module which includes the malfunctioning cell must be replaced. When replacing a module with a new one, its voltage is required to be adjusted to the adjusting voltage calculated from the Maximum cell voltage of normal cells.

**CAUTION:**

**PRECAUTION FOR VOLTAGE ADJUSTMENT WITH MODULE CHARGE BALANCER**

To prevent the damage to the module balancer, follow the instructions.

- Be sure to choose the monitoring cable which adapted to a module type.
  - Because the shape of the module connector is same, the monitoring cable can be connected to all module type.
  - If an incompatible monitoring cable is connected, the module balancer may be damaged.
- Do not remove the module gauge from a monitoring cable. The module gauge (colored acrylic board) is distinguished from a monitoring cable with the same color by each module type.



**NOTE:**

Voltage adjustment under low temperature conditions may require a long time. To prevent this from occurring, it is advisable to adjust voltage under room temperature conditions [20°C ± 10°C (68°F ± 18°F)].

## 1. CHECK ADJUSTMENT VOLTAGE VALUE

1. Check the recorded "Maximum cell voltage".



**NOTE:**

- Record "Maximum cell voltage" with "Data Monitor" before removing Li-ion battery.
- If it is not recorded with data monitor, each cell voltage is measured with a circuit tester and confirm maximum value of cell voltage.

2. Calculate the adjustment value as follows from "Maximum cell voltage".

ModuleType	Adjustment voltage value
2P7S (2 Parallel 7 Series)	: Maximum cell voltage× 7
2P5S (2 Parallel 5 Series)	: Maximum cell voltage× 5

Example: 3.925 V (Maximum cell voltage) × 7= 27.475 V (Adjustment voltage value)

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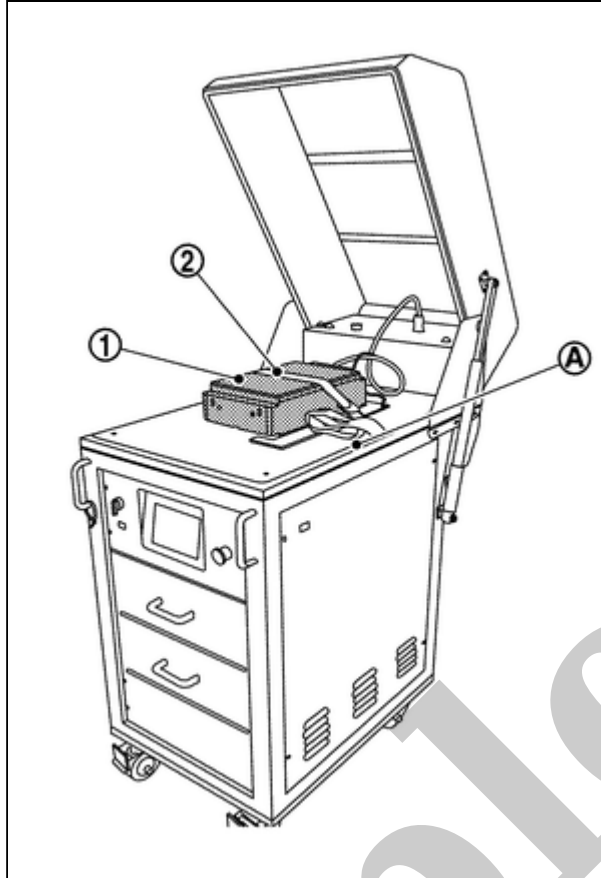
## 2. VOLTAGE ADJUSTMENT WITH MODULE CHARGE BALANCER



**NOTE:**

For details on the module charge balancer operation, refer to the adjuster operation manual.

1. Set the new module ① to the module balancer [KV9911-8000 (J-52665)] ① and fix with the module fixation band ②.

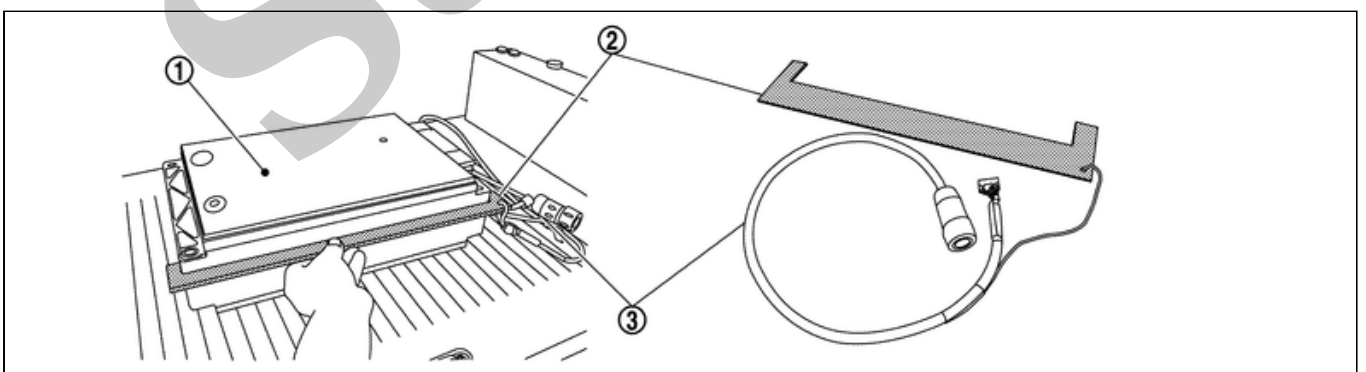


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2. Choose the monitoring cable and connect to the module.

**CAUTION:**

1. Choose the module type to adjust on the data screen of the module balancer. Be sure to choose the monitoring cable of the same color as displayed on the screen.
2. Match a module gauge with the length of the module.
  - Be sure to match a module gauge with the length of the module.
  - If an incompatible monitoring cable is connected, the module balancer may be damaged.



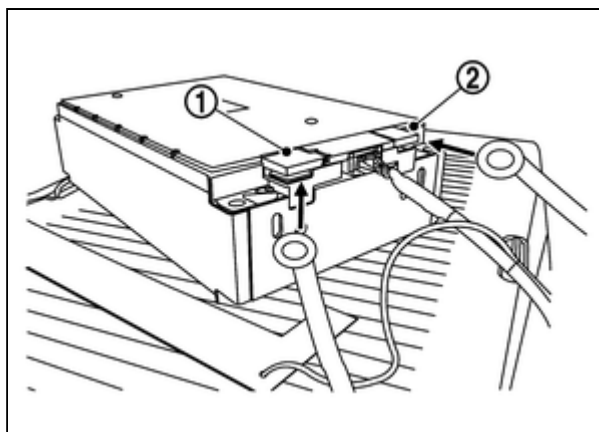
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①:	Module
②:	Module gauge
③:	Monitoring cable

ModuleType	Monitoring cable No. [Module gauge color]
2P7S (2 Parallel 7 Series)	: KV9911-8400(J-53354)[Green]
2P5S (2 Parallel 5 Series)	: KV9911-8300(J-53353)[Yellow]

3. Connect the monitoring cable to the module balancer.

4. Connect the voltage adjustment power cable (+) terminal ① and the voltage adjustment power cable (-) ② to the module.



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5. Input “adjustment voltage value” on the module balancer.

ModuleType	Adjustment voltage value
2P7S (2 Parallel 7 Series)	: Maximum cell voltage× 7
2P5S (2 Parallel 5 Series)	: Maximum cell voltage× 5

Example:  $3.925 \text{ V (Maximum cell voltage)} \times 7 = 27.475 \text{ V (Adjustment voltage value)}$

6. Start voltage adjustment according to indication of the module balancer.

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After module voltage adjustment completion, [GO TO 3](#)

### 3. CHECK MODULE VOLTAGE

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1. Remove the module from the module charge balancer.
2. Using a circuit tester, check that the module voltage is within the specified range.

Standard

: Adjustment voltage value  $\pm 10 \text{ mV}$

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### 4. CHECK CELL VOLTAGE

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Ⓜ With CONSULT

1. After adjusting the voltage, install the module to the vehicle.
2. Select “Data Monitor” of “HIGH VOLTAGE BATTERY”.
3. Check “Cell voltage” of install module.
4. Check that the difference from the “Maximum cell voltage” confirmed in Step1 is within the specified range.

Standard

: Maximum cell voltage  $\pm 33 \text{ mV}$

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WORK END

## Description

This function enables the saving of data stored in Li-ion battery controller (LBC) into CONSULT.

For details, refer to [Work Procedure](#).

Sample

## 1. PERFORM SAVE BATTERY INFORMATION DATA

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 With CONSULT

1. Select “Work Support” mode of “HIGH VOLTAGE BATTERY”.
2. Select “SAVE BATTERY INFORMATION DATA”.
3. Save internal information of LBC.

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END

Sample



## DETAILED FLOW

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### 1. GET INFORMATION FOR SYMPTOM

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Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred) using the "Diagnostic Work Sheet". Refer to [Diagnostic Work Sheet](#).)

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### 2. CHECK DTC AND FREEZE FRAME DATA

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1. Perform self-diagnosis for "HIGH VOLTAGE BATTERY" and "HIGH VOLTAGE BATTERY 2" by connecting CONCLT.
2. If DTC is displayed, perform the following work.
  - Store DTC and freeze frame data.
  - Investigate the relationship between the cause specified by DTC and the malfunction information from customer.

Are any DTCs detected?

YES>>

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NO>>

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### 3. CONFIRM THE SYMPTOM

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Try to confirm the symptom described by the customer on the car. Also study if it is fail-safe related symptoms. Refer to [Fail-safe](#). "Diagnosis Work Sheet" is useful to verify the incident. Verify relation between the symptom and the condition when the symptom is detected.

Are any described symptoms occurred?

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NO>>

Perform DTC diagnosis simulation test. Refer to [Intermittent Incident](#).

### 4. PERFORM DTC CONFIRMATION PROCEDURE

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Perform DTC CONFIRMATION PROCEDURE for the displayed DTC, and then check that DTC is detected again.

When multi DTCs are detected, determine diagnosis order by referring to "DTC Inspection Priority Chart".



**NOTE:**

**Freeze frame data is useful if the DTC is not detected.**

Is DTC detected?

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NO>>

Perform DTC diagnosis simulation test. Refer to [Intermittent Incident](#).

## 5. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

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Inspect according to Diagnosis Procedure of the system.



**NOTE:**

"Diagnosis Procedure" mainly checks open circuit. Short circuit check is also necessary in the diagnosis procedure. For more information see Refer to [Intermittent Incident](#).

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## 6. REPAIR OR REPLACE THE MALFUNCTIONING PART

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1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement.

Check DTC. If DTC is displayed, erase it?

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## 7. FINAL CHECK

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Check result of repair and replacement work, and perform DTC CONFIRMATION PROCEDURE or Component.

Function Check again, and check that the symptom is not detected the other malfunction is not occurred.



**NOTE:**

Delete DTC "HIGH VOLTAGE BATTERY 2" and then "HIGH VOLTAGE BATTERY" in order.

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Before delivery of the vehicle to the customer, always erase DTC