

# Your Ultimate Source for OEM Repair Manuals

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## 2010 NISSAN GT-R (R35) OEM Service and Repair Workshop Manual

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**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.
- When probe is put on the battery lower case, put it on the part that is not corroded or soiled.

**NOTE:**

Check service plug switch and service plug switch bracket as an assembly.

+	-	Resistance
Service plug switch terminals	Service plug switch bracket.	1000 MΩ or more

Is the inspection result normal?

YES>>

[GO TO 11.](#)

NO>>

Record replacement of malfunction parts. Then [GO TO 11.](#)

## 11. CHECK EACH BUS BAR (2ND FLOOR)

1. Remove the following bus bars.

- Bus bar (Bus bar 10) between module No. 6 and module No. 7
- Bus bar (Bus bar 11) between module No. 7 and module No. 8
- Bus bar (Bus bar 15) between module No. 10 and module No. 9
- Bus bar (Bus bar 16) between module No. 11 and module No. 10

2. Check that each bus bar shield have no scratches and cracks.

Is the inspection result normal?

YES>>

[GO TO 12.](#)

NO>>

Record replacement of malfunction parts. Then [GO TO 12.](#)

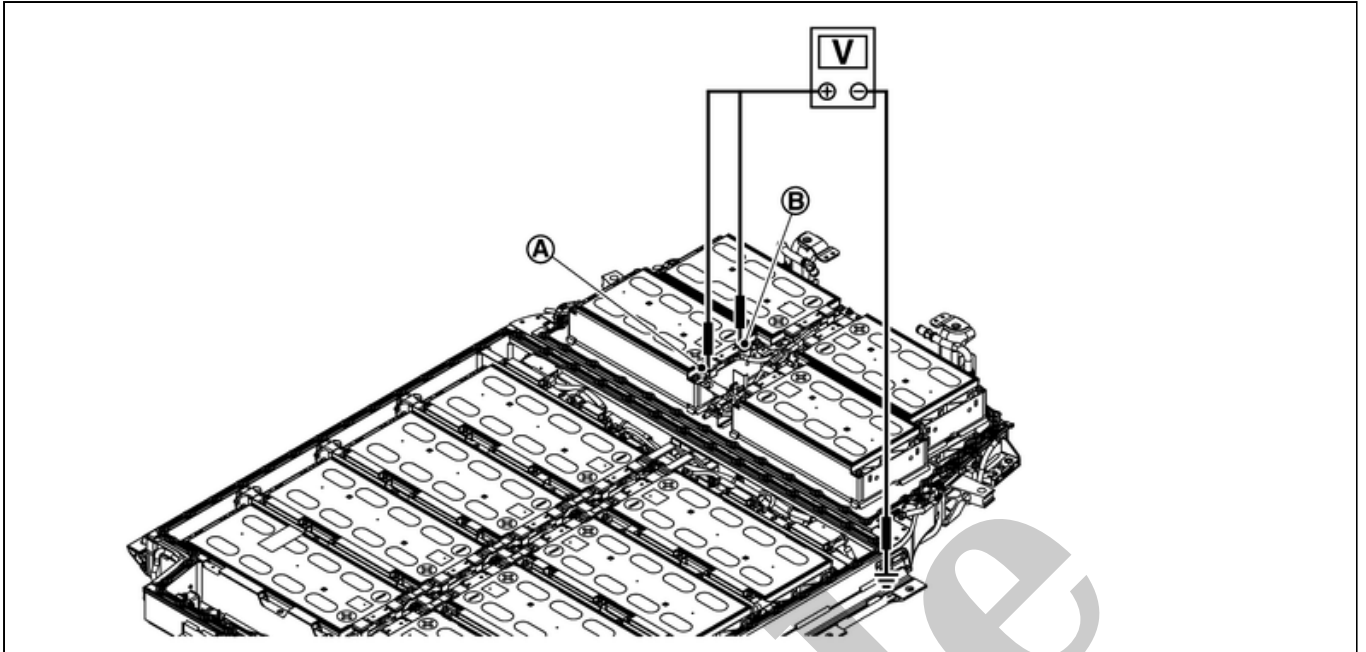
## 12. CHECK INSULATION VOLTAGE OF MODULE (2ND FLOOR)

1. Disconnect cell voltage detecting connector of each module.

2. Measure voltage between positive and negative terminal of each module and battery lower case ground.

**NOTE:**

The figure shows module No. 10 as an example. Measure voltage of each module in the same procedure.



SIEMD-7159484-05-000392161

Probe		Resistance
+	-	
Module positive terminal (A)	Battery pack lower case	0 V approx.
Module negative terminal (B)		

Is the inspection result normal?

YES>>

[GO TO 13.](#)

NO>>

[GO TO 17.](#)

### 13. REMOVE BATTERY PACK 2ND FLOOR

Remove the battery pack 2nd floor.

>>

[GO TO 14.](#)

### 14. CHECK EACH BUS BAR (1ST FLOOR)

1. Remove the following bus bars.

- Bus bar (Bus bar 3) between module No. 1 and module No. 2
- Bus bar (Bus bar 4) between module No. 2 and module No. 3
- Bus bar (Bus bar 5) between module No. 3 and module No. 4
- Bus bar (Bus bar 6 and 7) between module No. 4 and module No. 5
- Bus bar (Bus bar 8) between module No. 5 and module No. 6
- Bus bar (Bus bar 9) between module No. 6/11 and module No. 7/10

- Bus bar (Bus bar 17) between module No. 11 and module No. 12
  - Bus bar (Bus bar 18 and 19) between module No. 12 and module No. 13
  - Bus bar (Bus bar 20) between module No. 13 and module No. 14
  - Bus bar (Bus bar 21) between module No. 14 and module No. 15
  - Bus bar (Bus bar 22) between module No. 15 and module No. 16
  - Bus bar (Bus bar 20) between module No. 15 and module No. 16
  - Bus bar (Bus bar 43) between junction box and rear box
  - Bus bar (Bus bar 44) between junction box and rear box
  - Bus bar (Bus bar 45) between junction box and rear box
2. Check that each bus bar shield have no scratches and cracks.

Is the inspection result normal?

YES>>

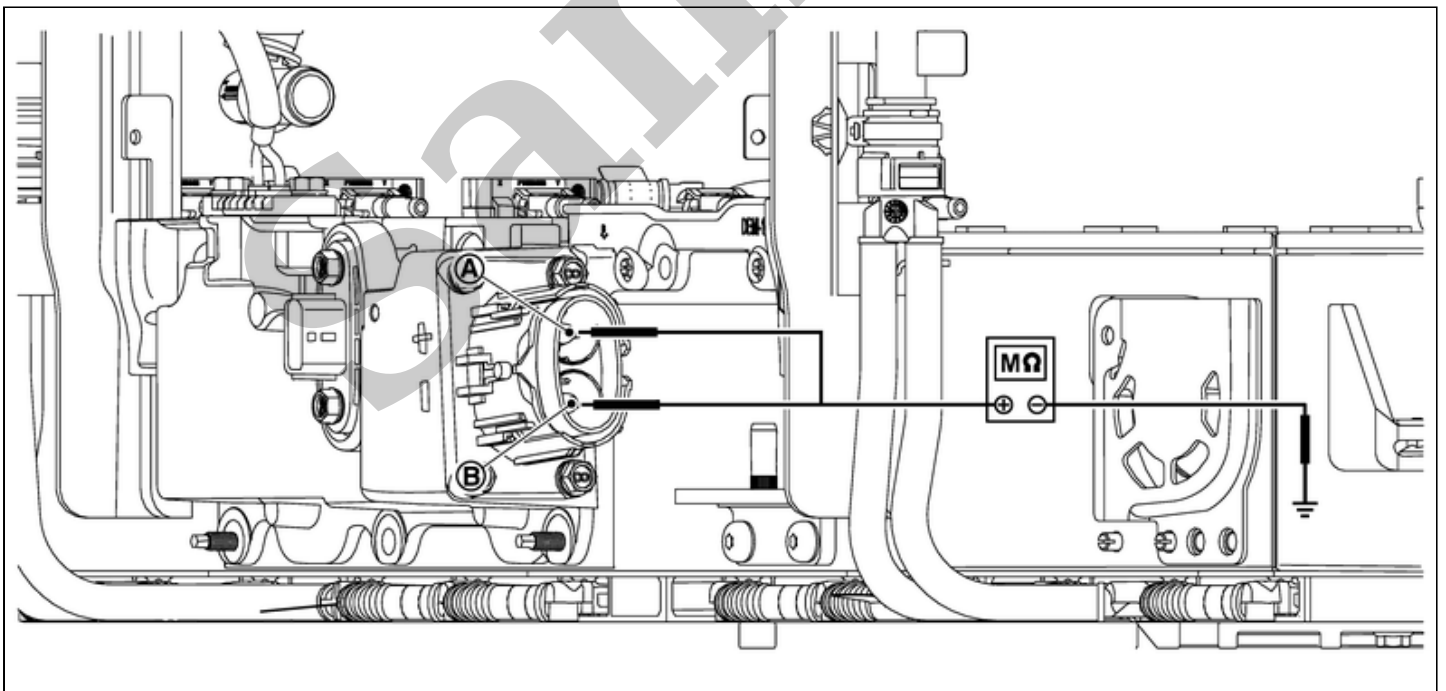
[GO TO 15.](#)

NO>>

Record replacement of malfunction parts. Then [GO TO 15.](#)

## 15. CHECK INSULATION RESISTANCE OF HIGH-VOLTAGE CONNECTOR (REAR)

Using insulation resistance tester, measure insulation resistance between terminals of high-voltage connector (rear).



SIEMD-7159484-12-000392164

Probe		Resistance
+	-	
High-voltage connector (Rear) terminal <b>A</b>	Battery pack lower case	1000 MΩ or more
High-voltage connector (Rear) terminal <b>B</b>		

**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.
- When probe is put on the battery lower case, put it on the part that is not corroded or soiled.

Is the inspection result normal?

YES>>

[GO TO 16.](#)

NO>>

Record replacement of high-voltage connector (rear). Then [GO TO 16.](#)

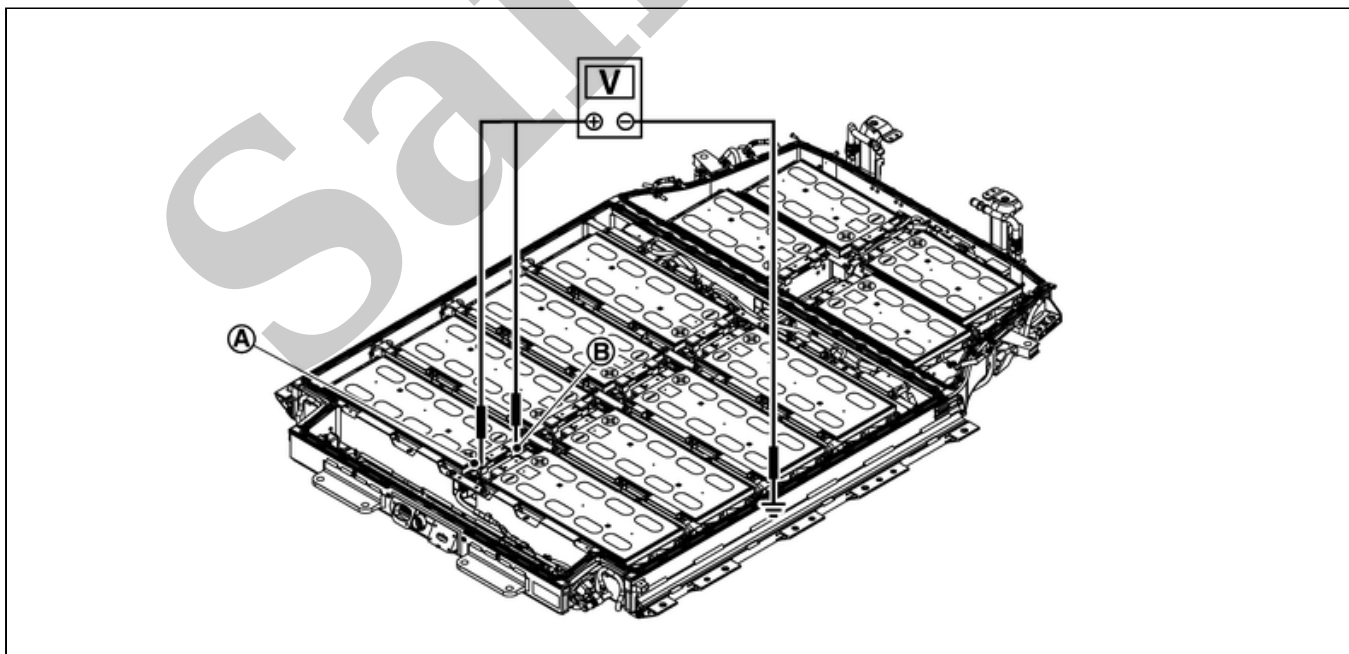
## 16. CHECK INSULATION VOLTAGE OF MODULE (1ST FLOOR)

1. Disconnect cell voltage detecting connector of each module.
2. Measure voltage between positive and negative terminal of each module and battery lower case ground.



**NOTE:**

The figure shows module No. 16 as an example. Measure voltage of each module in the same procedure.



SIEMD-7159484-MD-7161678-09-000392162OnOff-61F3B651-000392162

Probe		Resistance
+	-	
Module positive terminal (A)	Battery pack lower case	0 V approx.
Module negative terminal (B)		

Is the inspection result normal?

YES>>

[GO TO 17.](#)

NO>>

[GO TO 18.](#)

## 17. CHECK RESULT CONFIRMATION

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Confirm malfunction parts written or record by check.

Is there malfunction parts?

YES>>

Replace all parts written down or recorded.

NO>>

Replace LBC.

## 18. MODULE APPEARANCE CHECK

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1. Remove the module that has malfunction at voltage leak check from battery pack lower case.
2. Check the module for any of the following abnormalities by comparing its appearance with other normal modules.
  - There are dents or deformation on the module surface.
  - Liquid adheres to the module surface.
  - Module emits a strong organic solvent-like odor and continues.

>>

Record replacement of malfunction module and [GO TO 17.](#)

**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. CHECK FUSE

Check the following fuse

Power supply	Fuse No.
Main switch ON power supply (12V main relay power supply)	102

Is inspection result normal?

YES>>

[GO TO 2.](#)

NO>>

Replace the fuse after repairing the circuit that caused blown fuse.

## 2. PRECONDITIONING-1

1. Turn power switch OFF.
2. Remove the service plug. Refer to [HOW TO DISCONNECT HIGH VOLTAGE : Precautions](#).

>>

[GO TO 3.](#)

## 3. CHECK LI-ION BATTERY GROUND CIRCUIT

1. Disconnect Li-ion battery vehicle communication harness connector.

2. Check the continuity between Li-ion battery vehicle communication harness connector and ground.

+		-	Continuity
Li-ion battery			
Connector	Terminal		
E9	6	Ground	Exist
	13		
	20		

Is inspection result normal?

YES>>

[GO TO 4.](#)

NO>>

Check and repair ground circuit. Refer to [Wiring Diagram](#).

#### 4. CHECK 12V BATTERY MAIN RELAY POWER SUPPLY

1. Connect 12V battery negative terminal.
2. Check the voltage between Li-ion battery vehicle communication harness connector and 12V main relay harness connector.

+		-	Voltage
Li-ion battery			
Connector	Terminal		
E9	11	Ground	9 – 16 V

Is inspection result normal?

YES>>

[GO TO 6.](#)

NO>>

[GO TO 5.](#)

#### 5. CHECK 12V MAIN RELAY POWER SUPPLY

Check continuity between Li-ion battery vehicle communication harness connector and 12V main relay harness connector.

+		-	
Li-ion battery		12V main relay	
Connector	Terminal	Connector	Terminal
E9	11	E106	5

Is inspection result normal?

YES>>

Check 12V main relay. Refer to [Diagnosis Procedure](#).

NO>>

Repair and replace malfunction parts.



## 6. PRECONDITIONING-2

### WARNING:

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

1. Turn power switch OFF.
2. Disconnect 12V battery negative terminal.
3. Remove Li-ion battery from vehicle. Refer to [Removal & Installation.](#)
4. Remove battery pack upper case. Refer to [Removal & Installation.](#)

>>

[GO TO 7.](#)

## 7. CHECK CONNECTOR CONNECTION CONDITION

Check the connection of LBC harness connectors.



### NOTE:

**Pull the connector first then push the connector to check connection.**

Is the inspection result normal?

YES>>

[GO TO 8.](#)

NO>>

Repair harness connector connection.

## 8. CHECK CONTINUITY BETWEEN LI-ION BATTERY AND LBC

1. Remove LBC. Refer to [Removal & Installation.](#)
2. Check continuity between Li-ion battery vehicle communication harness connector and LBC harness connector.

Li-ion battery		LBC		Continuity
Connector	Terminal	Connector	Terminal	
LB2	12	LB18	36	Exist
	6		42	
	13		43	
	20		44	

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

Is the inspection result normal?

YES>>

INSPECTION END

NO>>

Repair or replace Li-ion battery vehicle communication harness.

**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

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

Is installation normal?

YES>>

[GO TO 2.](#)

NO>>

Replace service plug.

## 2. CHECK CONNECTION STATUS OF HIGH VOLTAGE HARNESS CONNECTOR (REAR)

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**WARNING:**

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

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

Is inspection result normal

YES>>

[GO TO 3.](#)

NO>>

Connect high voltage harness connector (Rear) properly.