

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 Grand Livina OEM Service and Repair Workshop Manual

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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.

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[GO TO 2.](#)

2. PRECONDITIONING

WARNING:

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

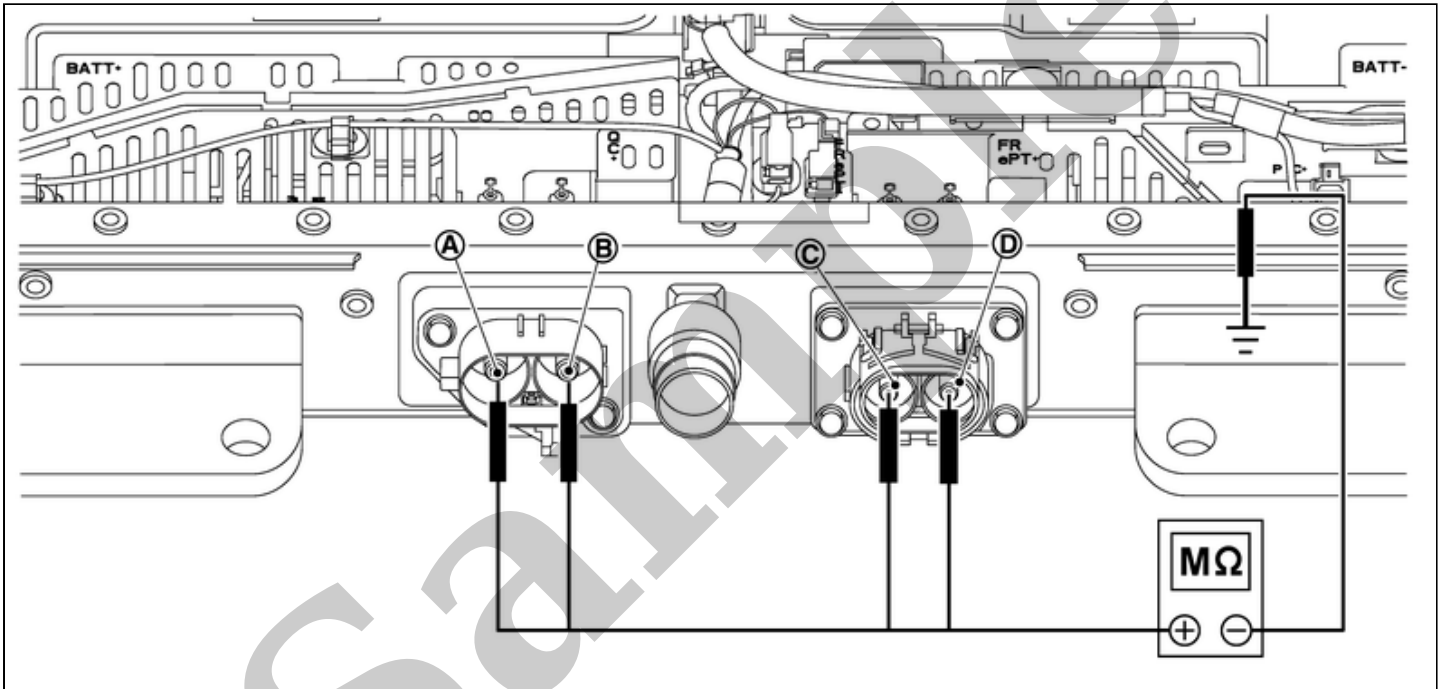
1. Disconnect the high voltage. Refer to [HOW TO DISCONNECT HIGH VOLTAGE : Precautions.](#)
2. Check voltage in high voltage circuit. Refer to [CHECK VOLTAGE IN HIGH VOLTAGE CIRCUIT : Precautions.](#)
3. Remove Li-ion battery. Refer to [Removal & Installation.](#)
4. Remove battery pack upper case. Refer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

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[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).



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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.

- 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 6.](#)

NO>>

[GO TO 4.](#)

4. CHECK BUS BAR BETWEEN HIGH VOLTAGE CONNECTOR AND JUNCTION BOX.

1. Remove high voltage connector (front) and high voltage connector (quick charge).
2. Remove each connector of junction box.
3. Remove the following bus bar.
 - Bus bar (Bus bar 1) between high voltage connector (Front) and junction box.
 - Bus bar (Bus bar 24) between high voltage connector (Quick charge) and junction box.
4. Check that each bus bar shield have no scratches and cracks.

Is the inspection result normal?

YES>>

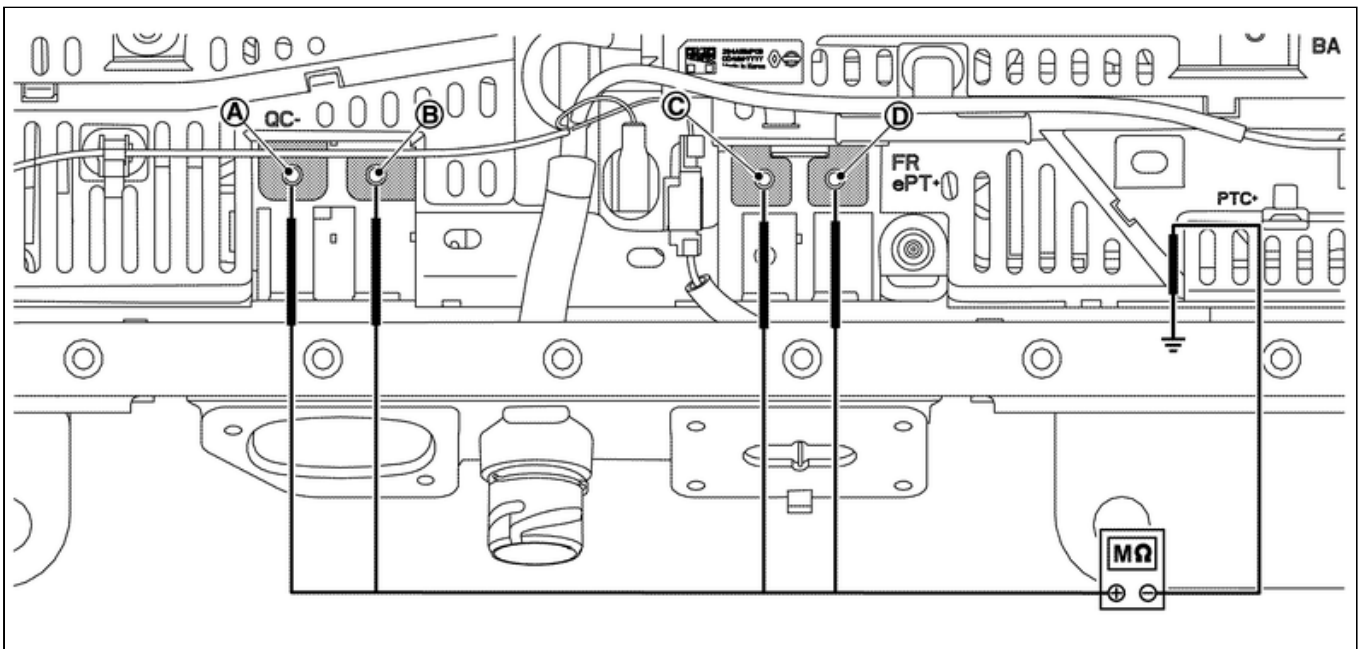
[GO TO 5.](#)

NO>>

Take note about replaced malfunction parts. Then [GO TO 5.](#)

5. BATTERY JUNCTION BOX INSULATION RESISTANCE-1

1. Remove high voltage connector (Front) and high voltage connector (Quick charge).
2. Remove each connector of junction box.
3. Using insulation resistance tester, measure insulation resistance between battery junction box terminals and battery pack ground.



Probe		Resistance
+	-	
Battery junction box terminals (P1) (A)	Battery pack lower case	1000 MΩ or more
Battery junction box terminals (P3) (B)		
Battery junction box terminals (P5) (C)		
Battery junction box terminals (P6) (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.
- 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>>

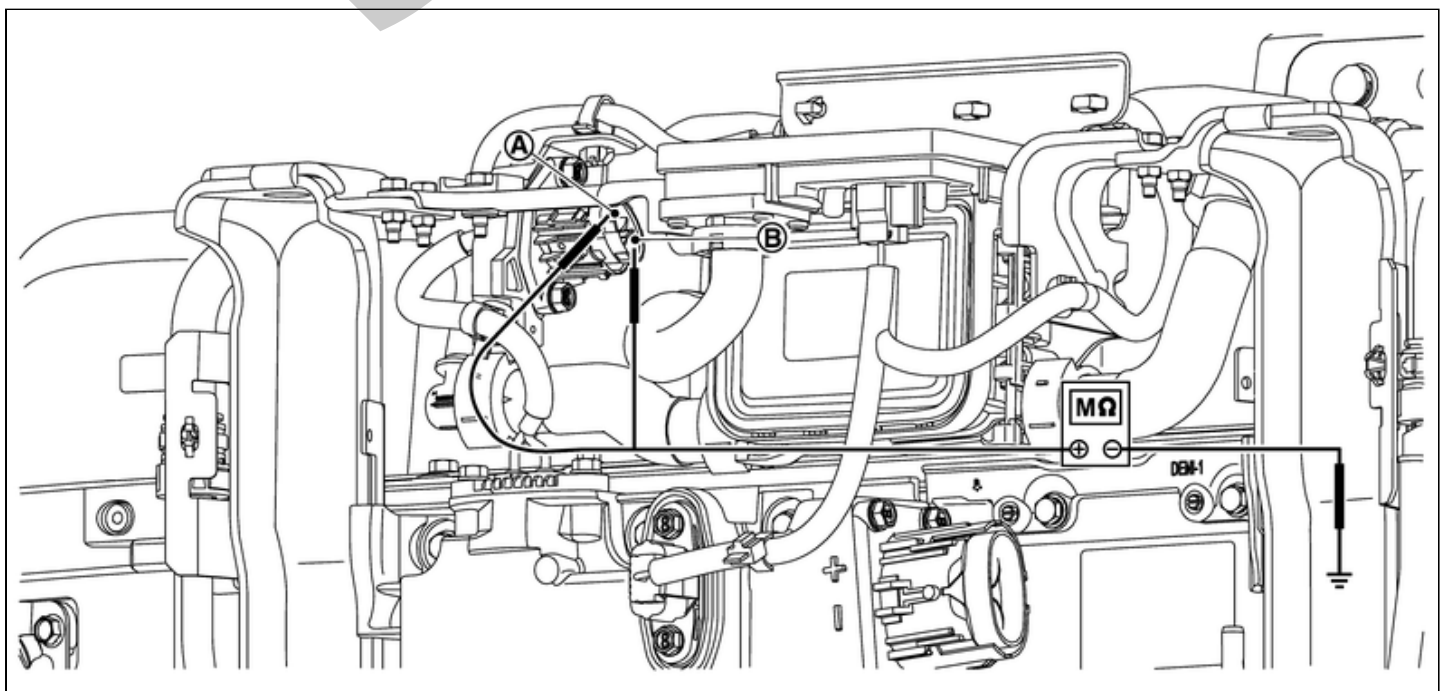
Take note about replacement of high voltage connector (Front) and high voltage connector (Quick charge) Then [GO TO 6](#).

NO>>

Take note about malfunction parts. Then [GO TO 6](#).

6. CHECK INSULATION RESISTANCE OF HIGH VOLTAGE CONNECTOR (BATTERY PTC CONNECTOR)

Using insulation resistance tester, measure insulation resistance between high-voltage connector (Battery PTC) terminals and battery pack ground (battery pack lower case).



Probe		Resistance
+	-	
High-voltage connector (Battery PTC) terminal (A)	Battery pack lower case	1000 MΩ or more
High-voltage connector (Battery PTC) terminal (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 12V 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>>

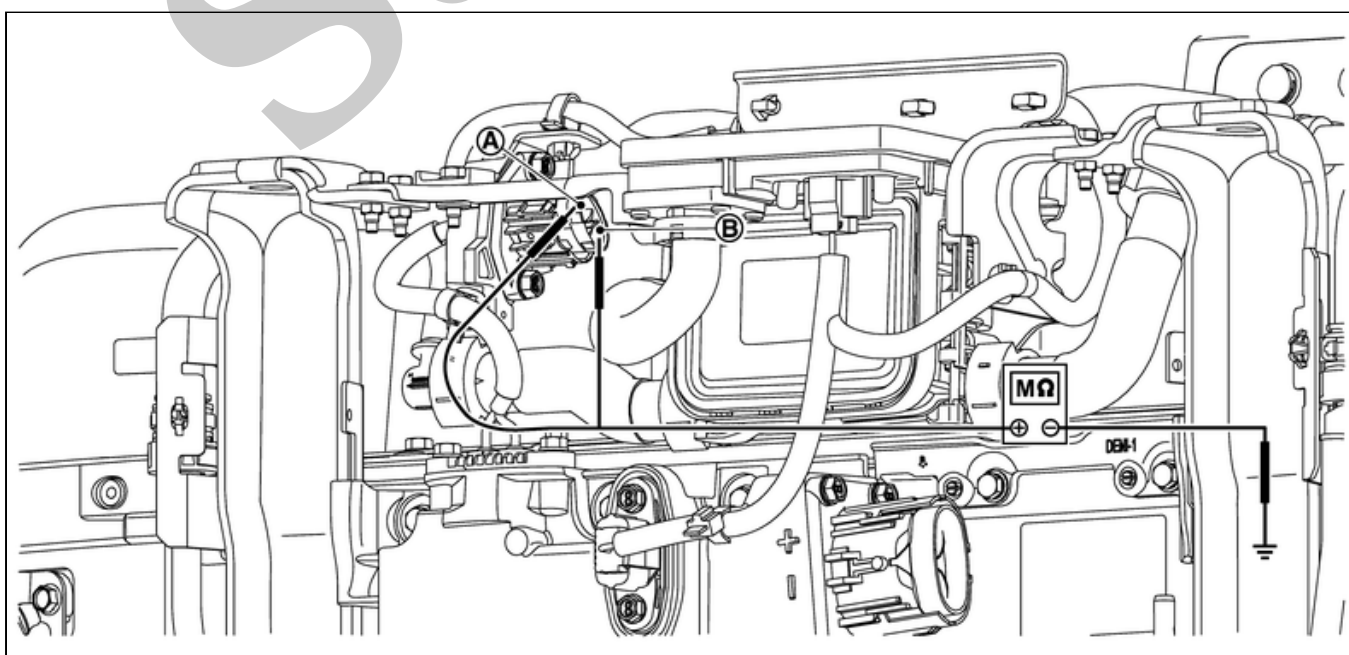
[GO TO 8.](#)

NO>>

[GO TO 7.](#)

7. CHECK INSULATION RESISTANCE BETWEEN HARNESES OF BATTERY PTC AND JUNCTION BOX

1. Remove battery PTC connector of junction box.
2. Using insulation resistance tester, measure insulation resistance between battery PTC harness and battery pack lower case.



Probe		Resistance
+	-	
High-voltage connector (Battery PTC) terminal (A)	Battery pack lower case	1000 MΩ or more
High-voltage connector (Battery PTC) terminal (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>>

Record replacement of high voltage connector (Battery PTC) Then [GO TO 8.](#)

NO>>

Record replacement of harnesses between battery PTC and junction box. Then [GO TO 8.](#)

8. CHECK BUS BAR BETWEEN JUNCTION BOX AND MODULE

1. Remove the following parts.

- Bus bar (bas bar 2) between junction box and module No. 1.
- Bus bar (bas bar 23) between junction box and module No. 16.
- Bus bar (Bus bar 41) between junction box and rear box
- Bus bar (Bus bar 42) between junction box and rear box
- Bus bar (Bus bar 46) between junction box and rear box
- Bus bar (Bus bar 47) between junction box and rear box

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

Is the inspection result normal?

YES>>

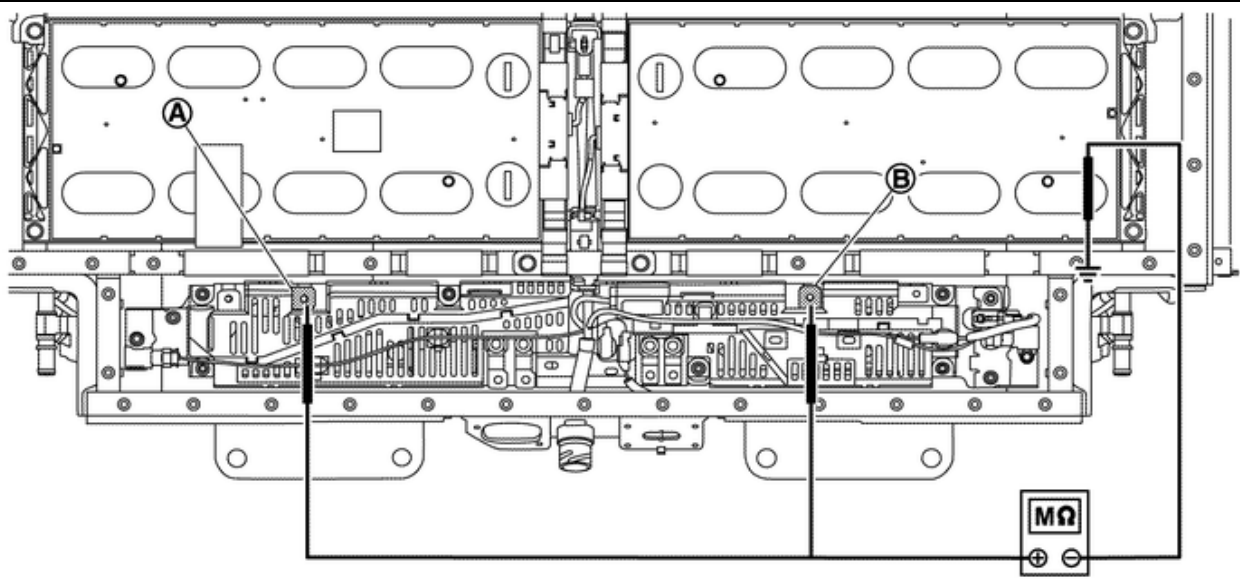
[GO TO 9.](#)

NO>>

Record replacement of malfunction parts. Then [GO TO 9.](#)

9. CHECK INSULATION RESISTANCE OF BATTERY JUNCTION BOX

Using insulation resistance tester, measure insulation resistance between battery junction box and battery pack lower case.



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Probe		Resistance
+	-	
Battery junction box terminals (P2) (A)	Battery pack lower case	1000 MΩ or more
Battery junction box terminals (P4) (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 12V 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 10.](#)

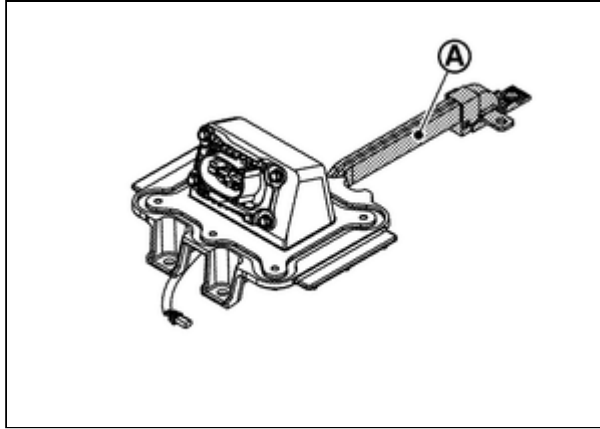
NO>>

Record replacement of junction box. Then [GO TO 10.](#)

10. CHECK INSULATION RESISTANCE OF SERVICE PLUG SWITCH

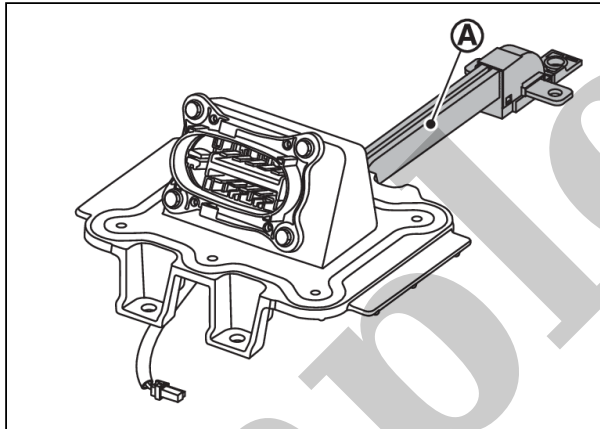
1. Remove service plug switch bracket together with bus bar.
2. Remove bus bar **(A)** from service plug.

TYPE A



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TYPE B

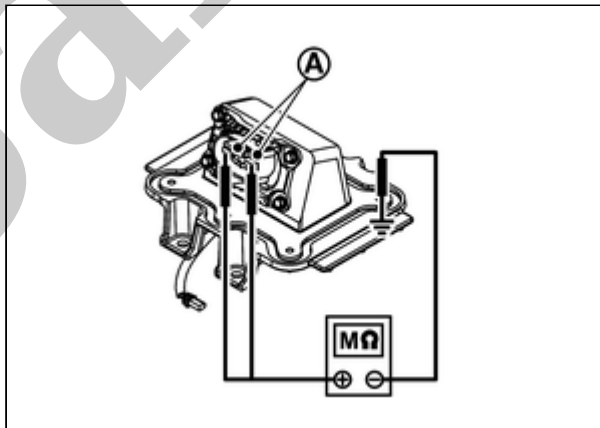


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3. Check that each bus bar shield have no scratches and cracks.

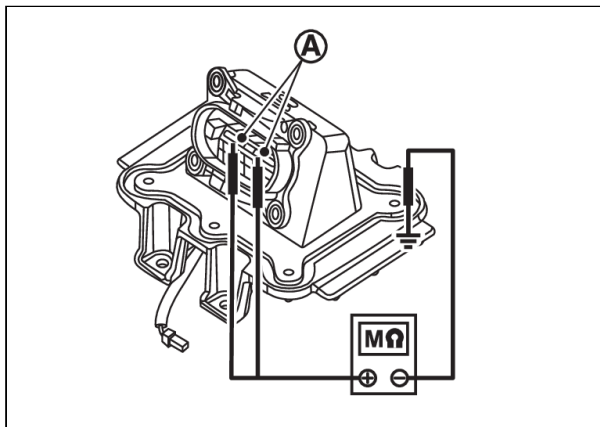
4. Using insulation resistance tester, measure insulation resistance between service plug switch terminal (A) and service plug switch bracket.

TYPE A



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TYPE B



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