

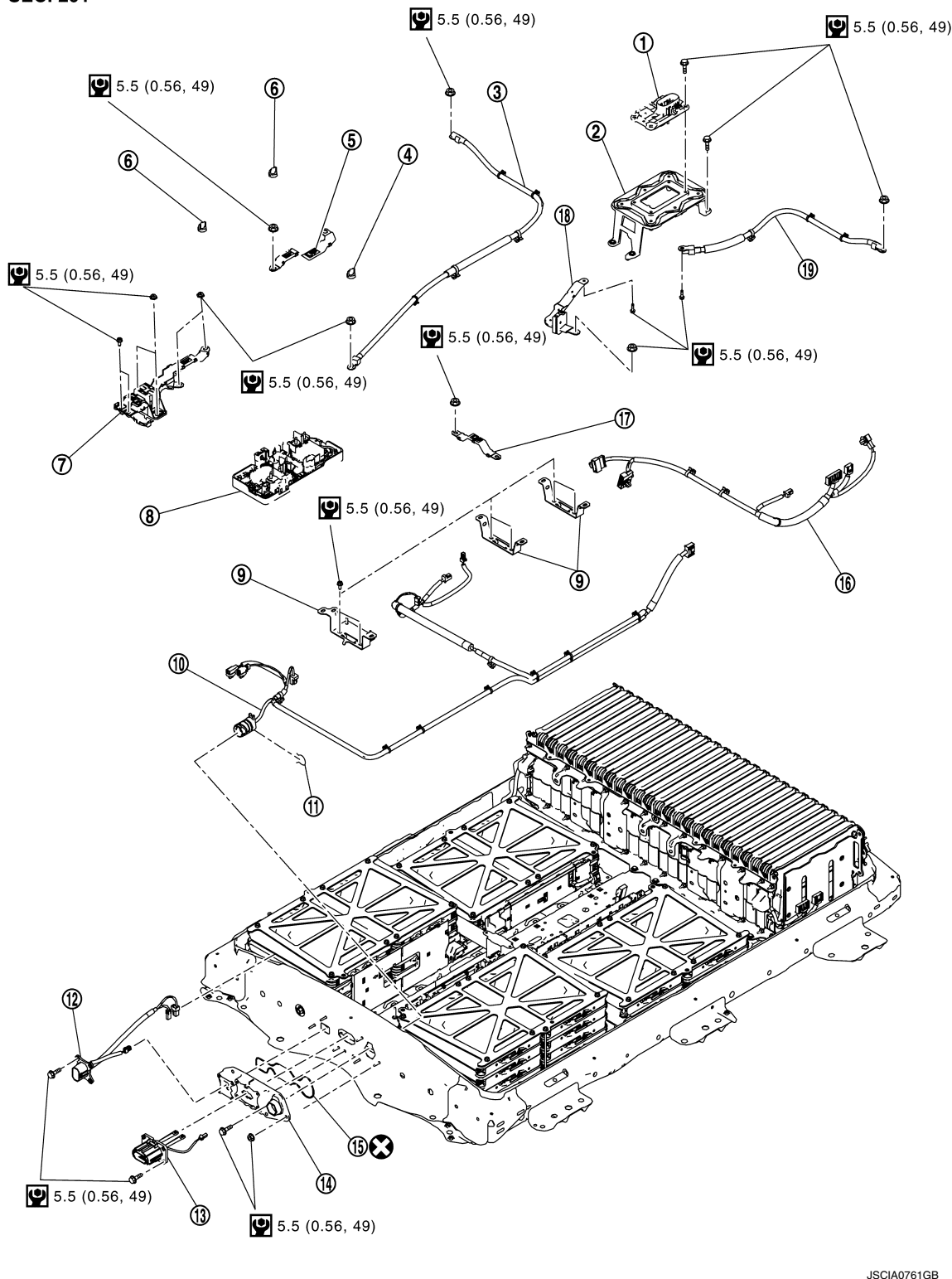
LI-ION BATTERY

< UNIT DISASSEMBLY AND ASSEMBLY >

BATTERY JUNCTION BOX AND BATTERY HARNESS : Exploded View

INFOID:000000010640659

SEC. 291



- | | | |
|--|-------------------------------|--------------------------------|
| ① Service plug switch | ② Service plug switch bracket | ③ High-voltage battery harness |
| ④ Bus bar nut cap | ⑤ Bus bar | ⑥ Bus bar nut cap |
| ⑦ Bus bar (integrated with noise filter) | ⑧ Battery junction box | ⑨ Harness bracket |
| ⑩ Vehicle communications harness | ⑪ Snap ring | ⑫ PTC heater harness connector |

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- ⑬

High-voltage harness connector

⑭

Connector flange

⑮

Seal
- ⑯

Voltage detection harness


⑰

Bus bar


⑱

Battery current sensor (integrated with bus bar)
- ⑲

High-voltage battery harness



: Always replace after every disassembly.



: N·m (kg-m, in-lb)

Bus bar Layout

DANGER:

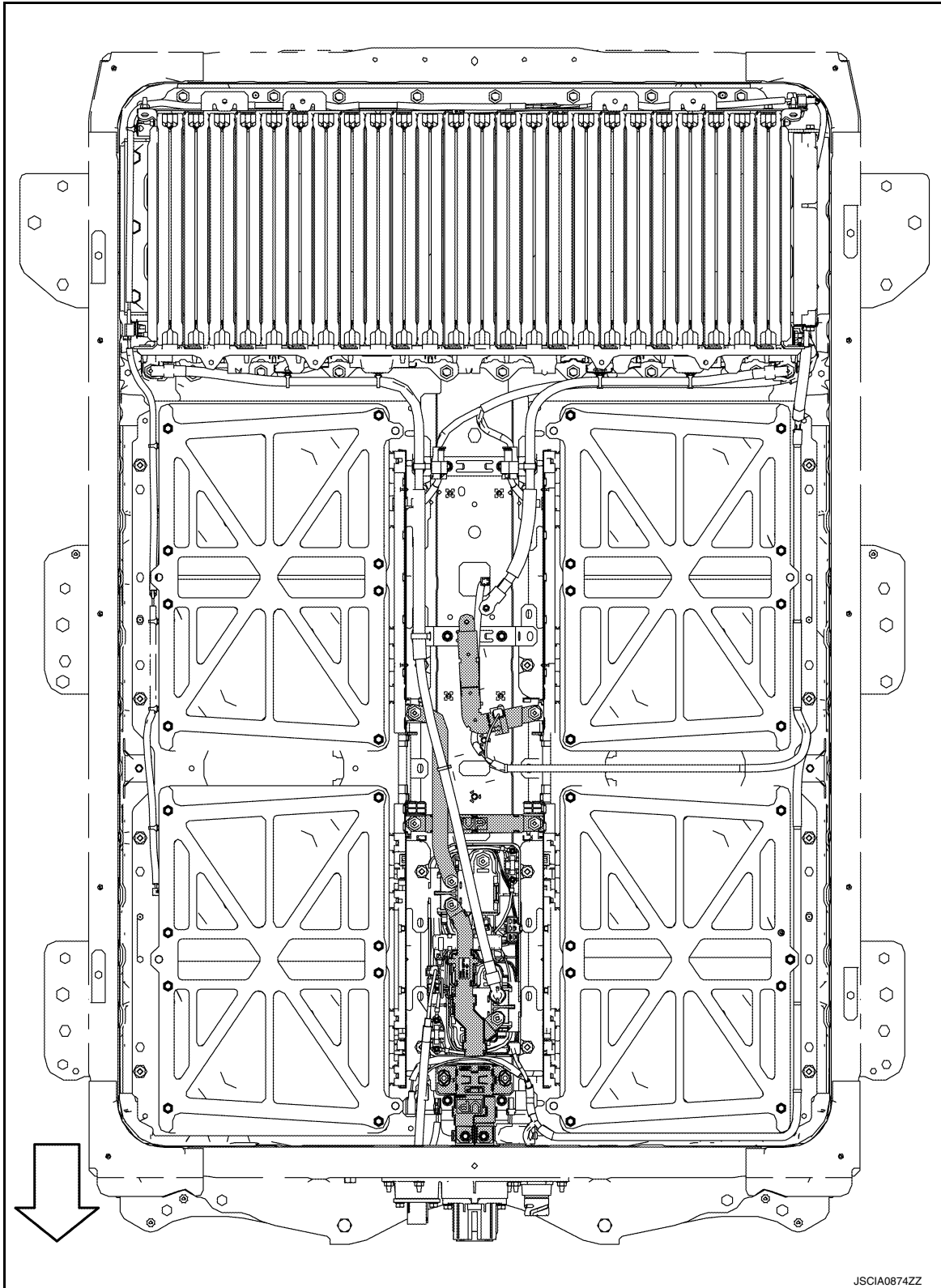
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Because there is a danger of electric shock and fire, never contact bus bar in a wrong terminal.



JSCIA0874ZZ

⇐ : Battery front

BATTERY JUNCTION BOX AND BATTERY HARNESS : Disassembly and Assembly

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DANGER:

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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 shut off the high voltage circuits before performing inspection or maintenance of high voltage system harnesses and parts.
- Be sure to put the removed service plug in pocket and carry it or store it in a tool box or other container so that another person does not accidentally connect it while work is in progress.
- Be sure to put on insulating protective gear before beginning work on the high voltage system.
- Clearly identify the persons responsible for high voltage work and ensure that other persons do not touch the vehicle. When not working, cover high voltage components with an anti-static cover sheet or similar item to prevent contact with other persons.
- Refer to [EVb-7, "High Voltage Precautions"](#).
- If the battery pack is to be disassembled, be sure to remove the Li-ion battery controller for preventing electric shock, fire, and damage to parts.

CAUTION:

There is the possibility of a malfunction occurring if the vehicle is changed to READY status while the service plug is removed. Therefore do not change the vehicle to READY status unless instructed to do so in the Service Manual.

ENVIRONMENT FOR LI-ION BATTERY DISASSEMBLY WORK

1. Must be an indoor environment.
 - The environment must utilize a shutter or other means to shut out the outside environment and prevent rain, snow, dust, or other substances from entering.
 - The environment must not cause the intrusion of sweat during work, or cause condensation to occur due to high temperature or humidity.
2. Metal powder, grease, and other foreign substances must not enter.
 - The indoor environment must also prevent metal powder, grease, and other foreign substances from entering due to maintenance performed on other vehicles and other sources during disassembly work.
 - If there is a risk of the above substances entering, take appropriate countermeasures, such as use of a vinyl curtain or an equivalent to shut out the outside environment.
3. The floor must be dry.
 - The floor must not be wet as a result of factors such as vehicle entry during rain or snow.
4. Work space
 - The work space must be approximately the size of one entire vehicle.
 - Take appropriate countermeasures so that persons other than the operator do not enter the work space, such as by placing signs indicating that disassembly work is in progress.
5. Standard fire fighting equipment
 - Always place a standard fire fighting equipment in the disassembly work area.
 - Depending on type of fire (vehicle or battery) use standard fire fighting equipment (water or extinguisher).

DISASSEMBLY

1. Remove the battery pack upper case. [EVb-191, "BATTERY PACK UPPER CASE : Removal and Installation"](#).
2. Remove Li-ion battery controller. Refer to [EVb-201, "LI-ION BATTERY CONTROLLER : Removal and Installation"](#).

LI-ION BATTERY

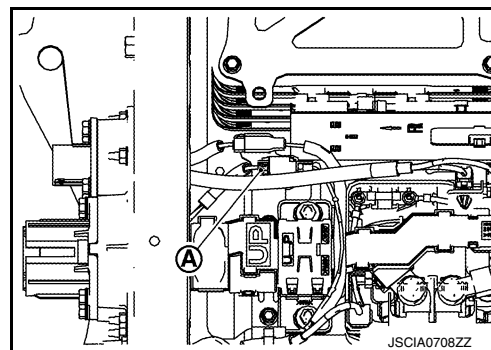
< UNIT DISASSEMBLY AND ASSEMBLY >

3. Disconnect the high-voltage harness engagement detection switch harness connector (A).

WARNING:



To prevent electric shock, wear insulated protective gear.



4. Open the bus bar cover and remove the high-voltage harness connector terminal mounting bolt (A).

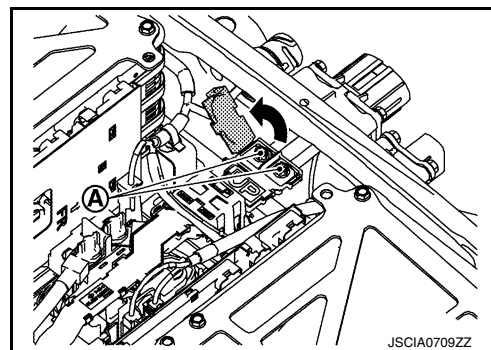
DANGER:



- There is the danger of electric shock caused by contact with the terminals. Be sure to wear insulated protective gear and use insulated tools.



- Because of the danger of electric shock, be sure to close the bus bar cover after removing the bus bar.

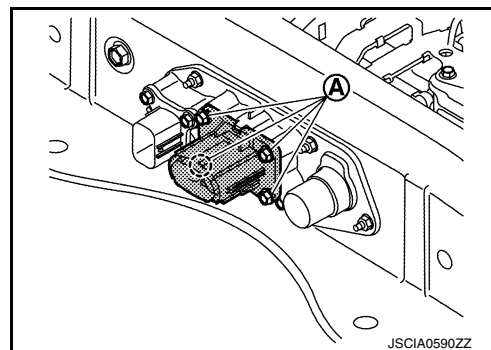


5. Remove the mounting bolt (A) and disconnect the high-voltage harness connector from the connector flange.

WARNING:



To prevent electric shock, wear insulated protective gear and use insulated tools.

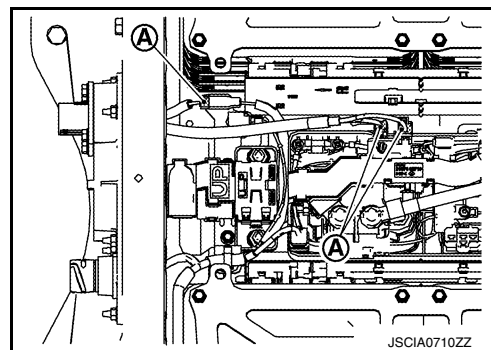


6. Disconnect the PTC heater harness connector (A).

WARNING:



To prevent electric shock, wear insulated protective gear.



LI-ION BATTERY

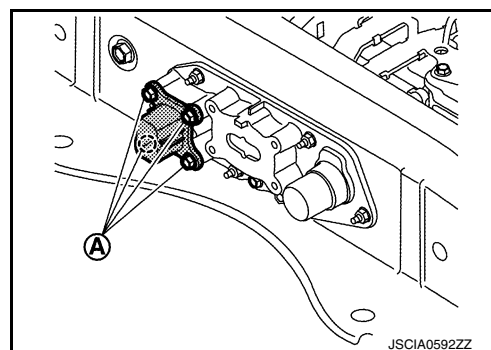
< UNIT DISASSEMBLY AND ASSEMBLY >

- Remove the mounting bolts (A) and remove the PTC heater harness connector from the connector flange.

WARNING:



To prevent electric shock, wear insulated protective gear and use insulated tools.

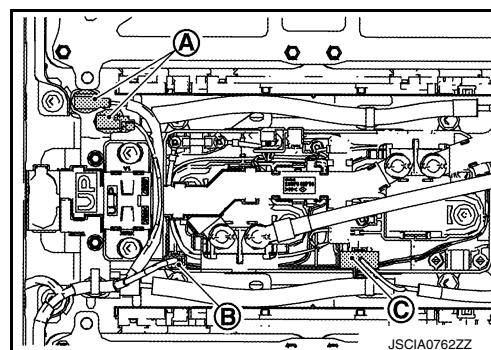


- Disconnect the vehicle communications harness connector (A), connector clips (B), and Li-ion battery heater harness connector (C).

WARNING:



To prevent electric shock, wear insulated protective gear and use insulated tools.

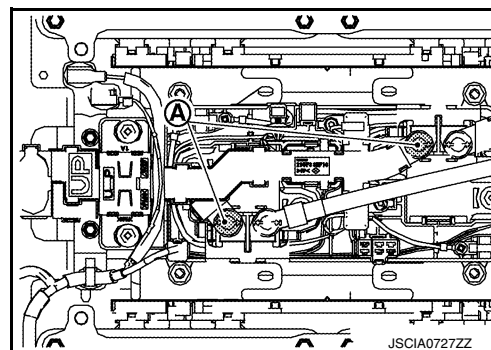


- Remove the bus bar nut caps (A).

WARNING:



To prevent electric shock, wear insulated protective gear and use insulated tools.

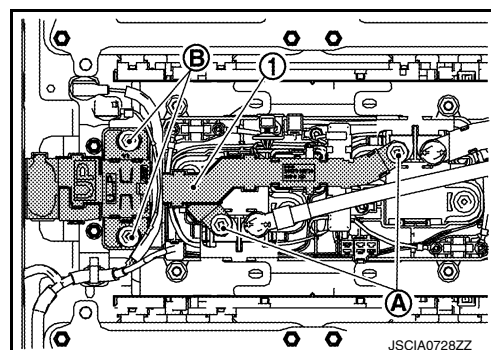


- Remove the bus bar mounting nuts (A) and (B), and remove the bus bar (integrated with noise filter) (1).

WARNING:



To prevent electric shock, wear insulated protective gear and use insulated tools.



- Remove the harness clips, then remove the battery member pipe (1).

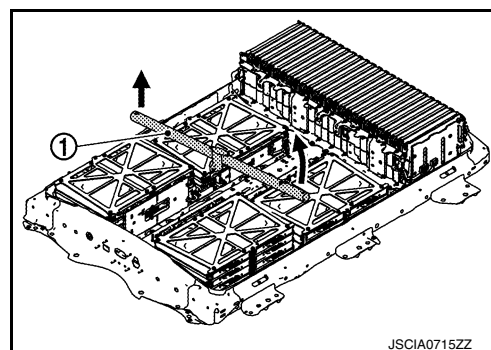
WARNING:



To prevent electric shock, wear insulated protective gear and use insulated tools.



NOTE:



LI-ION BATTERY

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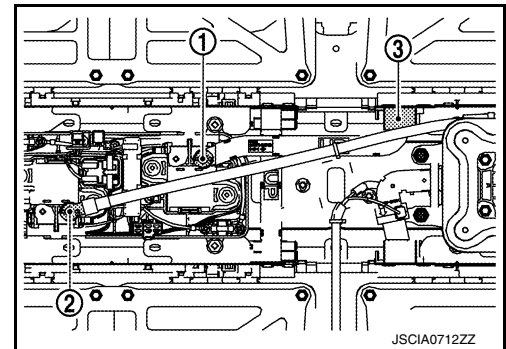
The right-side mounting hole is larger for facilitating removal of the battery member pipe. Lifting up the left side first makes removal easier.

12. Remove the bus bar nut cap ① and remove the high-voltage harness nut cap ②, then open the bus bar cover ③.

WARNING:



To prevent electric shock, wear insulated protective gear.



13. Remove the mounting nuts ①, and remove the bus bar ① and high-voltage harness ②.

DANGER:



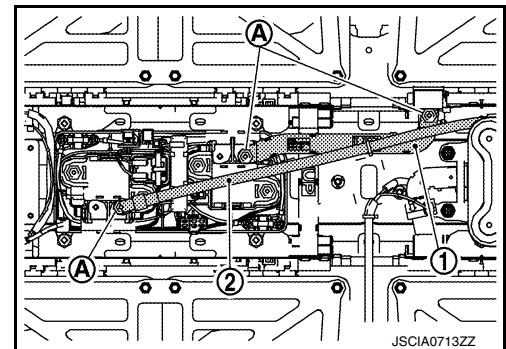
- There is the danger of electric shock caused by contact with the terminals. Be sure to wear insulated protective gear and use insulated tools.



- Because there is a risk of electric shock, immediately protect the terminals of the disconnected high-voltage harness connector (high-voltage terminals) with insulating tape so that they are not exposed.



- Because of the danger of electric shock, be sure to close the bus bar cover after removing the bus bar.

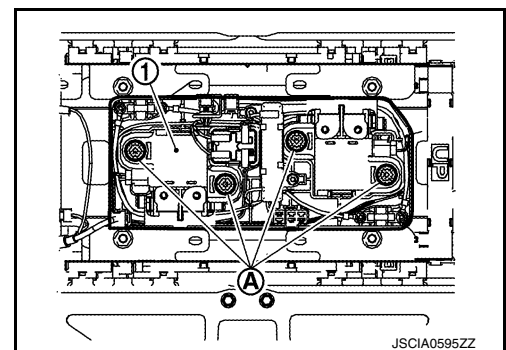


14. Remove the mounting nuts ① and remove the junction box ①.

WARNING:



To prevent electric shock, wear insulated protective gear and use insulated tools.

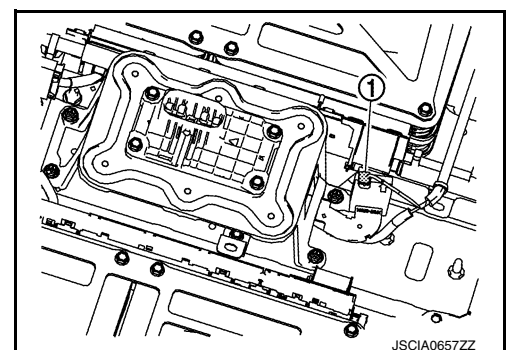


15. Disconnect the current sensor harness connector ①.

WARNING:



To prevent electric shock, wear insulated protective gear and use insulated tools.



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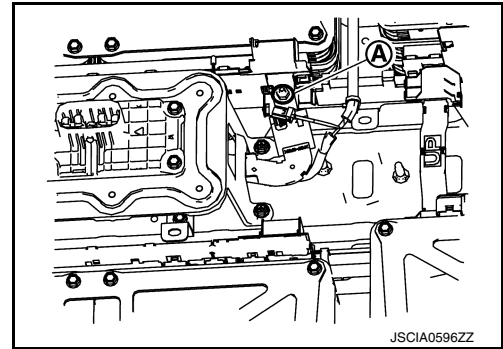
16. Remove the bus bar mounting nut which connects the current sensor and left front module stack (A).

DANGER:

- ⚡ There is the danger of electric shock caused by contact with the terminals. Be sure to wear insulated protective gear and use insulated tools.



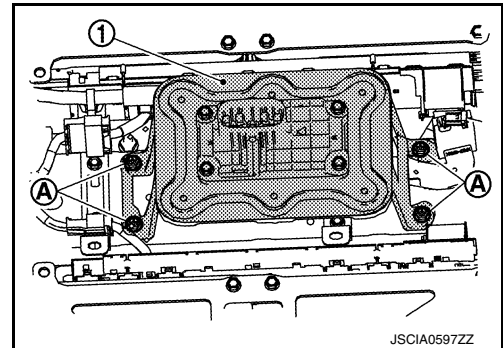
- ⚡ Because of the danger of electric shock, be sure to close the bus bar cover after removing the bus bar.



17. Remove the service plug switch bracket (1) mounting bolts (A).

WARNING:

- ⚡ To prevent electric shock, wear insulated protective gear and use insulated tools.



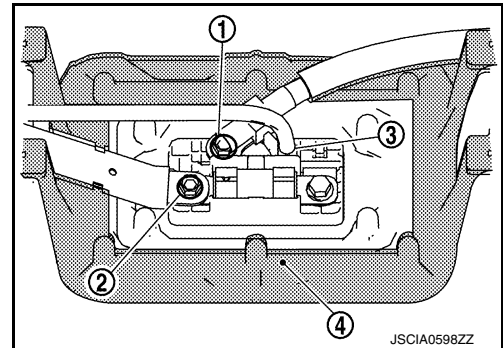
18. Invert the service plug switch bracket and remove the high-voltage harness mounting bolt (1), current sensor mounting bolt (2), and the connector (3), then remove the service plug switch bracket (4).

DANGER:

- ⚡ There is the danger of electric shock caused by contact with the terminals. Be sure to wear insulated protective gear and use insulated tools.



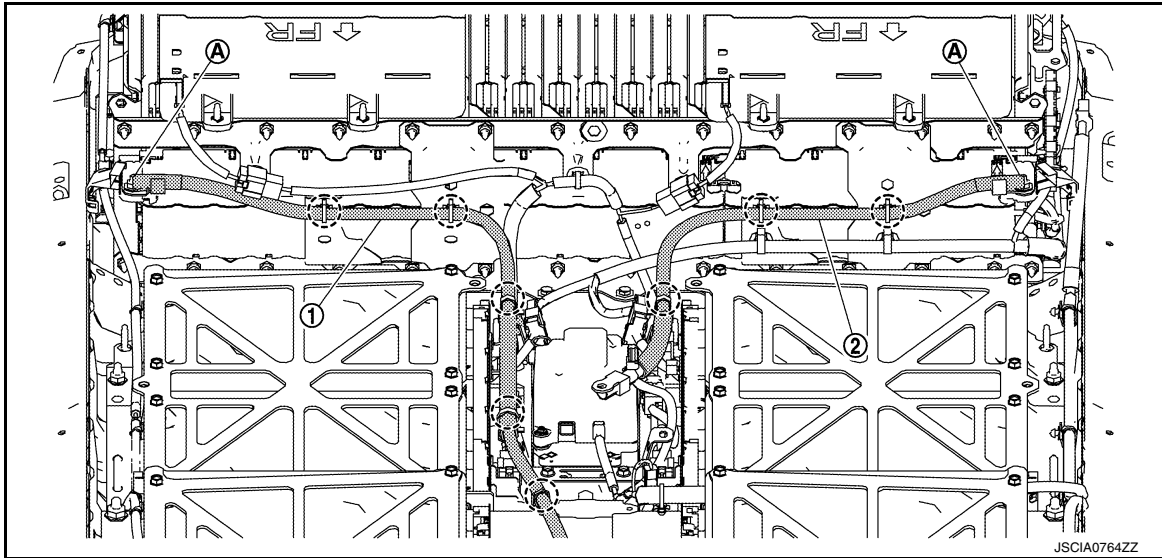
- ⚡ Because there is a risk of electric shock, immediately protect the terminals of the disconnected high-voltage harness connector (high-voltage terminals) with insulating tape so that they are not exposed.



19. Remove the mounting nuts (A), then remove high-voltage harness (1) and (2).

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○ : Harness clip

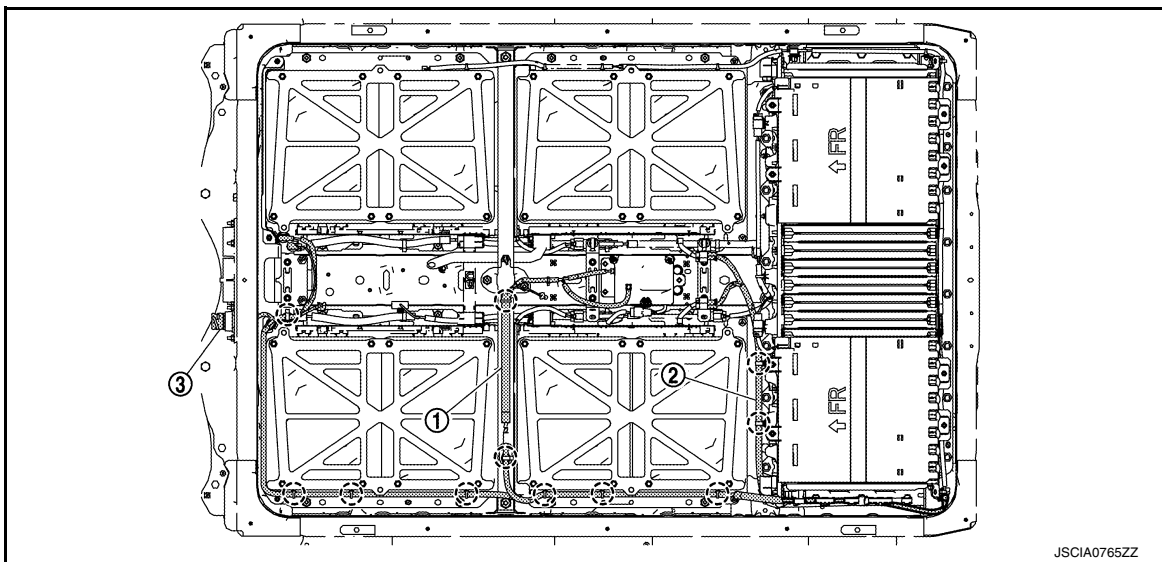
DANGER:

- ⚡ There is the danger of electric shock caused by contact with the terminals. Be sure to wear insulated protective gear and use insulated tools.



- ⚡ Because of the danger of electric shock, be sure to close the bus bar cover after removing the bus bar.

20. Remove the vehicle communications harness and voltage detection harness.



① Vehicle communications harness

② Voltage detection harness

③ Snap ring

○ : Harness clip

WARNING:

- ⚡ To prevent electric shock, wear insulated protective gear and use insulated tools.

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ASSEMBLY

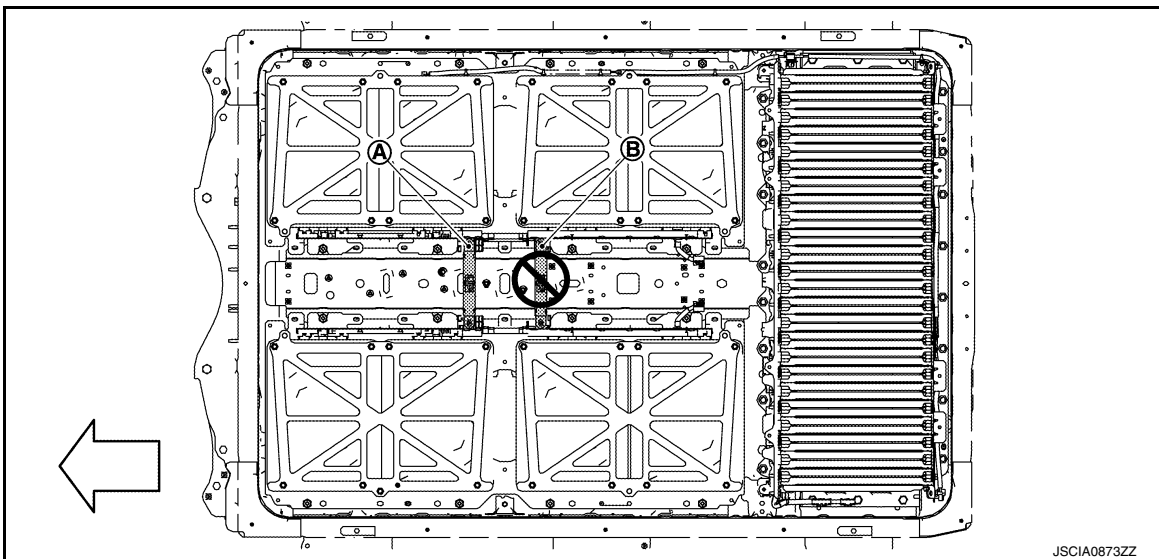
Note the following items, and disassembly in the reverse order of disassembly.

DANGER:

- ⚡ There is the danger of electric shock caused by contact with the terminals. Be sure to wear insulated protective gear and use insulated tools.



- ⚡ Because there is a danger of electric shock and fire, never allow bus bar to contact a wrong terminal.
 - If bus bar contacts a wrong terminal, the circuit becomes energized and a short may occur.
 - Always keep the bus bar cover closed until immediately before the installation of bus bar.
 - Since the correct installation position for the bus bar connected to both front module stacks is commonly-confused with the wrong position ②, install the bus bar to the correct position ① with extreme caution.



① Correct position

② Wrong position

← : Battery front

WARNING:

Install the Li-ion battery controller immediately before installing the battery pack upper case. Refer to [EVb-201, "LI-ION BATTERY CONTROLLER : Removal and Installation"](#).

CAUTION:

- Perform the "LI-ION BATTERY JUNCTION BOX DATA CLEAR" when battery junction box is replaced. Refer to [EVC-137, "Work Procedure"](#).
- Be sure to reinstall the high voltage harness clips in their original positions. If a clip is damaged, replace it with a new clip before installing.
- Check the following items after installing battery pack: Refer to [EVb-256, "Inspection"](#).

■AIR LEAK INSPECTION

■ELECTRIC EQUIPOTENTIAL TEST

LI-ION BATTERY HEATER