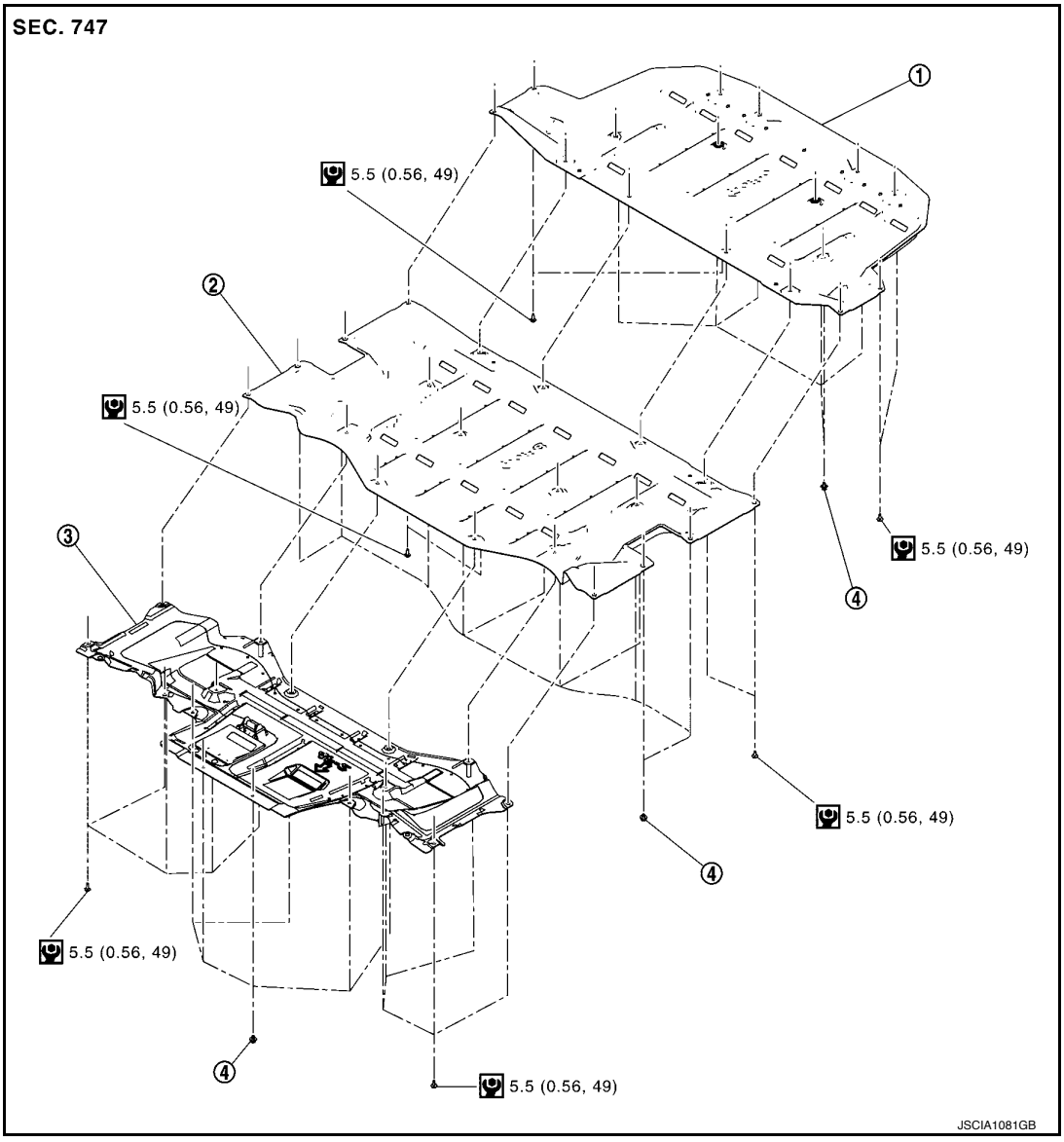
REMOVAL AND INSTALLATION

LI-ION BATTERY UNDERCOVER

Exploded View

INFOID:0000000011103346



① Li-ion battery undercover (rear) ② Li-ion battery undercover (center) ③ Li-ion battery undercover (front)

④ Clip

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000011103347

REMOVAL

WARNING:

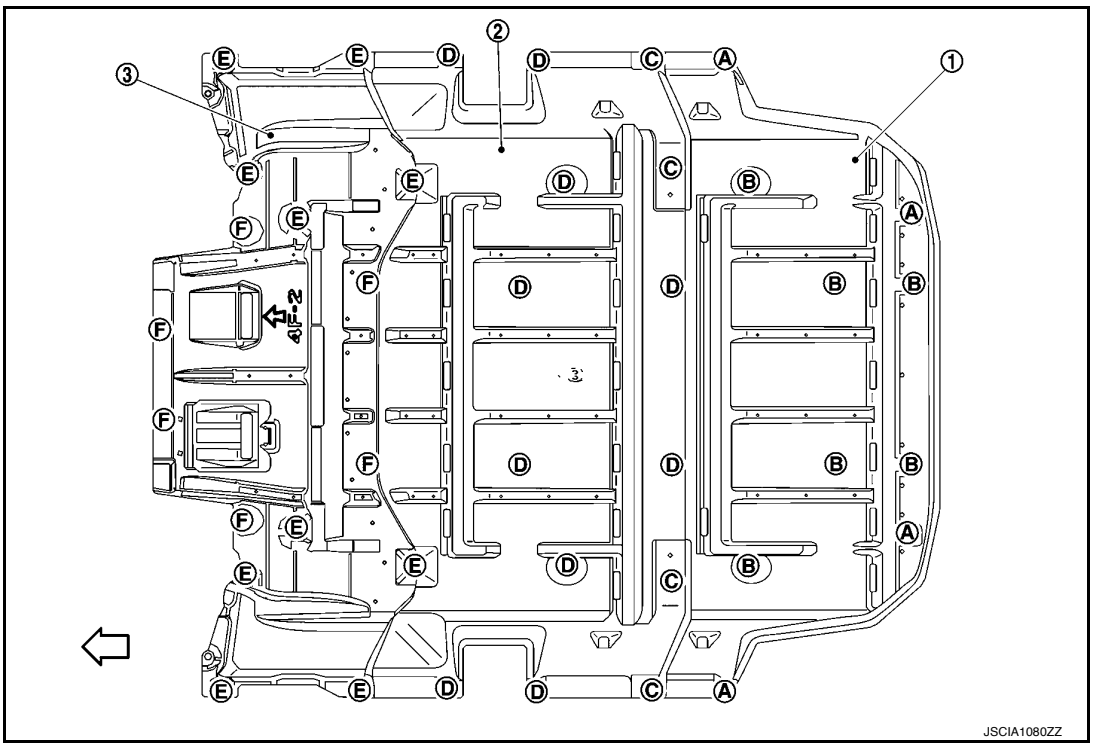
Prepare for work on the high-voltage system. Refer to EVB-283, "How to Disconnect High Voltage".

1. Remove the mounting bolts, nuts and clips.

2. Remove the Li-ion battery under covers.

INSTALLATION

1. Install the Li-ion battery undercover (rear).
2. Install the Li-ion battery undercover (center).
3. Install the Li-ion battery undercover (front).



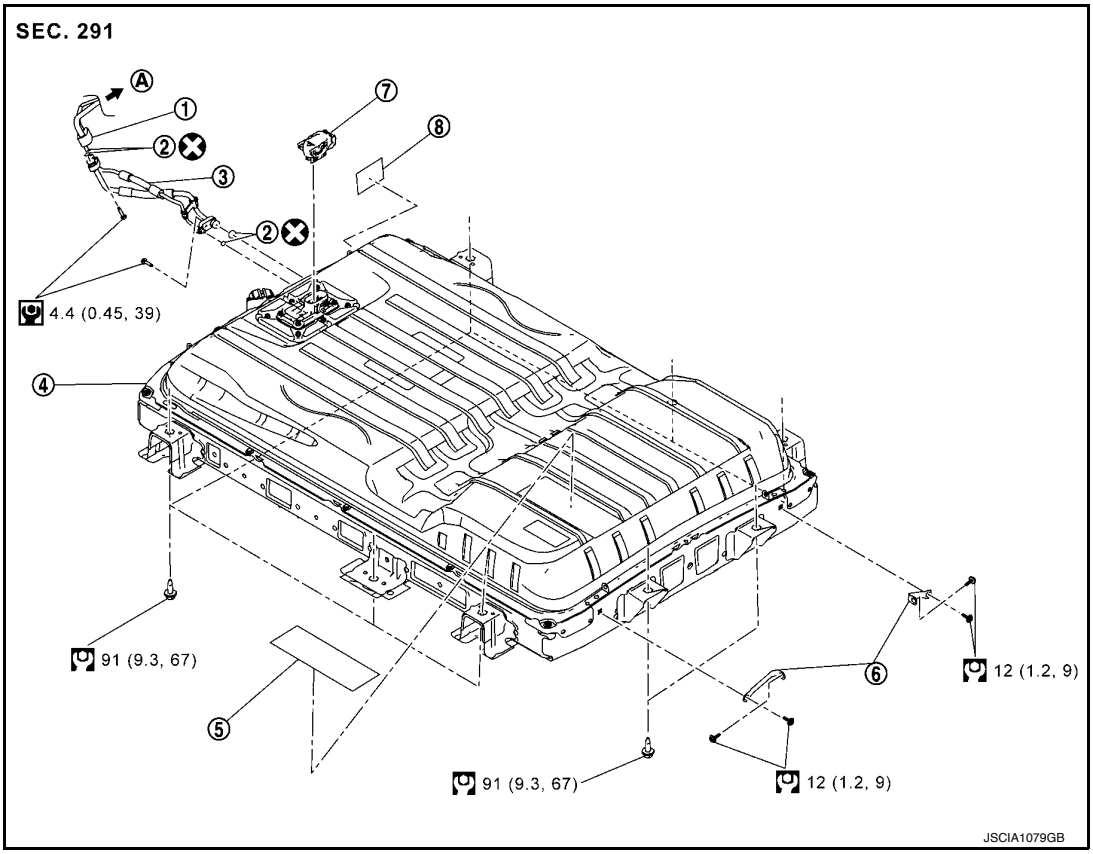
① Li-ion battery undercover (rear)
② Li-ion battery undercover (center)
③ Li-ion battery undercover (front)
Ⓐ Bolts for Li-ion battery undercover (rear)
Ⓑ Clips for Li-ion battery undercover (rear)
Ⓒ Bolts for Li-ion battery undercover (center)
Ⓓ Clips for Li-ion battery undercover (center)
Ⓔ Bolts for Li-ion battery undercover (front)
Ⓕ Clips for Li-ion battery undercover (front)
⇦: Vehicle front

UNIT REMOVAL AND INSTALLATION

LI-ION BATTERY

Exploded View

INFOID:0000000011103348



① Cooler pipe	② O-ring	③ Cooler pipe
④ Li-ion battery	⑤ Recycle label	⑥ Bonding plate
⑦ Service plug	⑧ High voltage warning label	

: Always replace after disassembly.

: N-m (kg-m ft-lb)

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000011103349

DANGER:

Because hybrid vehicles and electric vehicles contain a high voltage battery, there is a risk of electric shock, electric leakage, or similar accidents if the vehicle is 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.**

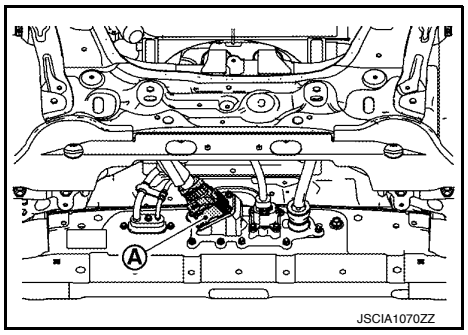
- **Clearly identify the persons responsible for high voltage work and ensure that other persons do not touch the vehicle. When not working, cover high voltage components with an anti-static cover sheet or similar item to prevent contact with other persons.**
- **Refer to EVB-285, "High Voltage Precautions".**

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.

REMOVAL

1. Discharge the refrigerant. Refer to HA-26, "Recycle Refrigerant" (For Europe) or HA-93, "Recycle Refrigerant" (Except for Europe).
2. Remove the service plug. Refer to EVB-283, "How to Disconnect High Voltage".

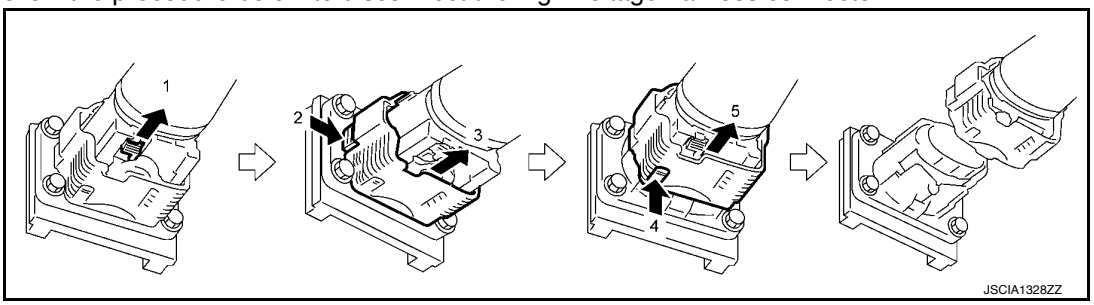
   WARNING:
   Prepare for work on the high-voltage system.
3. Lift up the vehicle and remove the Li-ion battery undercover. Refer to EVB-490, "Removal and Installation".
4. Disconnect the Li-ion battery high-voltage harness connector Ⓐ.



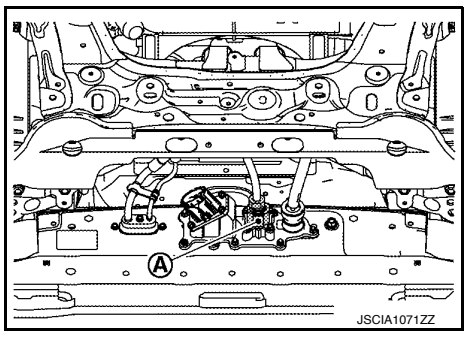
   DANGER:
   - **There is the danger of electric shock caused by contact with the terminals. Be sure to wear insulated protective gear.**

   - **Because there is the danger of electric shock, immediately insulate disconnected high voltage connectors and terminals with insulating tape.**

   - Follow the procedure below to disconnect the high-voltage harness connector.



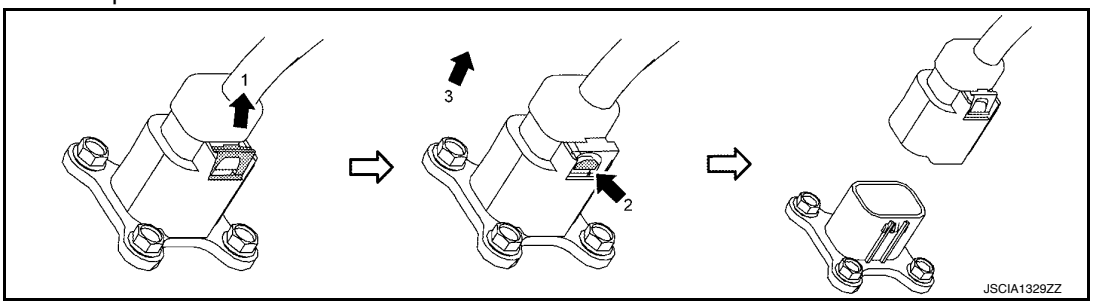
5. Disconnect the PTC heater harness connector Ⓐ.



   DANGER:
   - **There is the danger of electric shock caused by contact with the terminals. Be sure to wear insulated protective gear.**

   - **Because there is the danger of electric shock, immediately insulate disconnected high voltage connectors and terminals with insulating tape.**

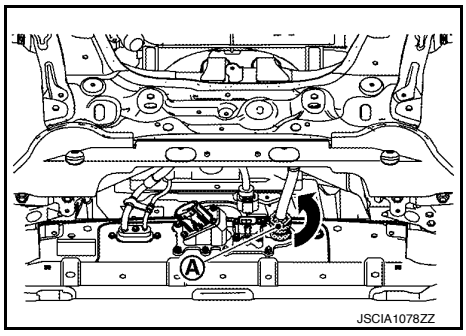
- Follow the procedure below to disconnect the PTC heater harness connector.



6. Disconnect the Li-ion battery vehicle communications connector Ⓐ while rotating it in the counterclockwise direction.

WARNING:

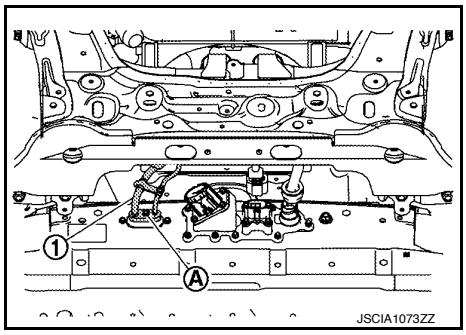
To prevent electric shock, wear insulated protective gear.



7. Remove the bolt Ⓐ and disconnect the A/C pipe ① from Li-ion battery.

DANGER:

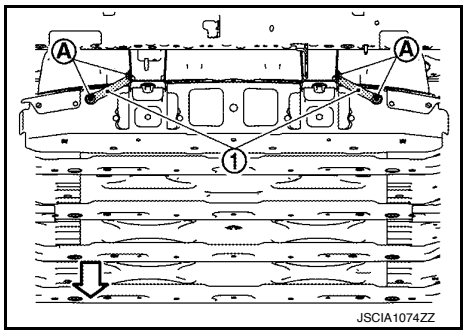
- **There is the danger of electric shock caused by contact with the terminals. Be sure to wear insulated protective gear.**



8. Remove mounting bolts Ⓐ then remove bonding plates ①.

WARNING:

To prevent electric shock, wear insulated protective gear.



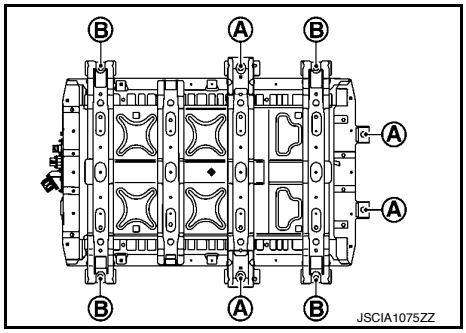
9. Remove Li-ion battery mounting bolts Ⓐ.

WARNING:

To prevent electric shock, wear insulated protective gear.

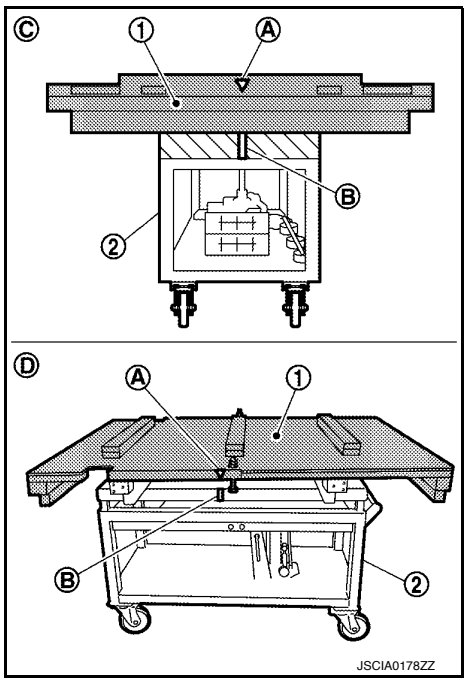
CAUTION:

Do not remove the 4 bolts Ⓑ in this step.

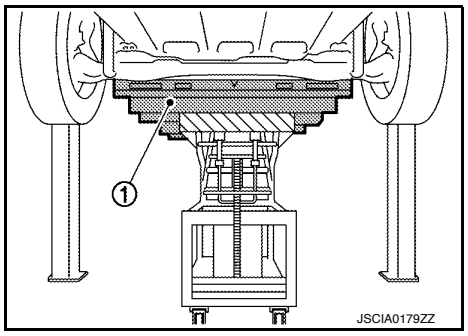


10. Set the pallet [SST: — (J-50583)] onto the lift table.
    - Align the pallet ① center mark Ⓐ and the lift table ② center mark Ⓑ.

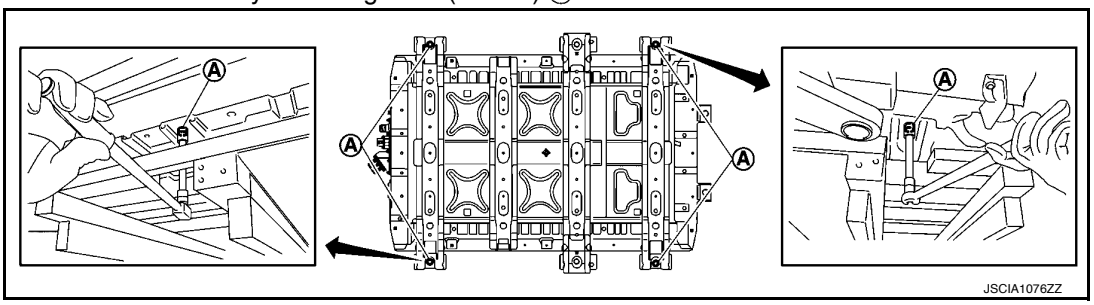
    Ⓒ Front
    Ⓓ Side



11. Set the pallet ① onto the Li-ion battery.
    CAUTION:
    For preventing the battery from falling, fasten the pallet and battery with transport fastening bolts.



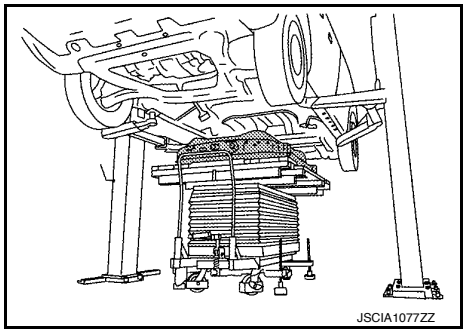
12. Remove the Li-ion battery mounting bolts (4 bolts) Ⓐ.



WARNING:

To prevent electric shock, wear insulated protective gear.

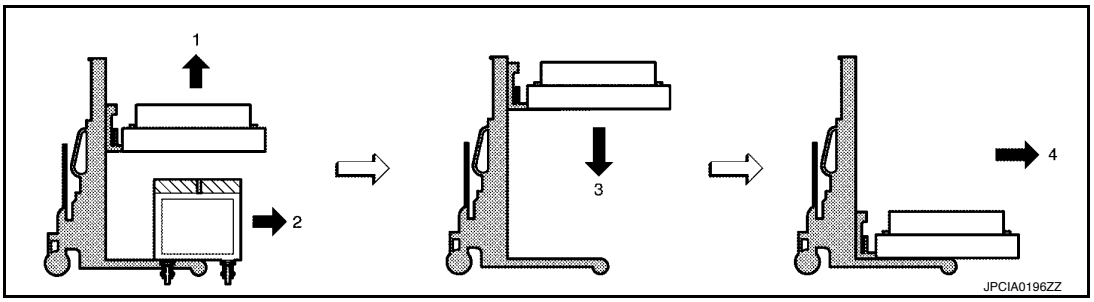
13. Lower the pallet, and remove the Li-ion battery from the vehicle.



WARNING:

To prevent electric shock, wear insulated protective gear.

14. Lower the Li-ion battery from the lift table together with the pallet.



1. Lift up the Li-ion battery.
2. Move the lift table.
3. Lower the Li-ion battery.
4. Operate the stacker and move the Li-ion battery.

CAUTION:

Because there is the danger of tipping over, do not move the stacker while the Li-ion battery is lifted up.

INSTALLATION

1. When replacing the Li-ion battery with a new battery, perform the work listed below.

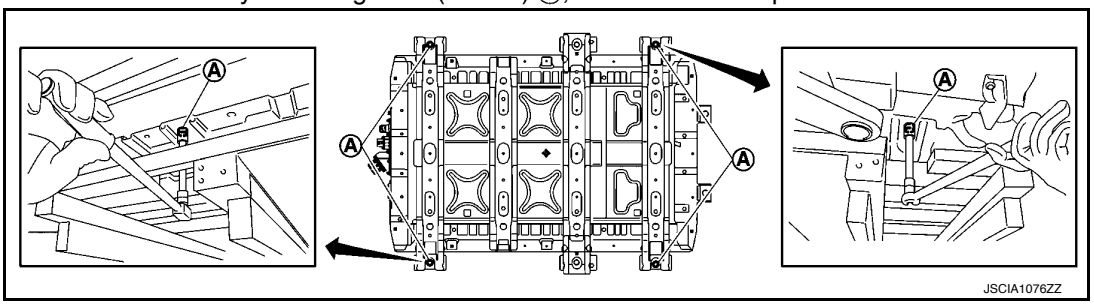
a. Enter the date of the (replacement) work on the EV battery tracking identification seal that is packaged together with the new part.

b. Cut the EV battery tracking identification seal into 2 pieces and apply them to the body of the replaced (old) Li-ion battery and to the “Li-ion battery replacement history record”.

c. Enter the necessary information in the “Li-ion battery replacement history record”.

2. Install the Li-ion battery onto the vehicle body.

3. Tighten the Li-ion battery mounting bolts (4 bolts) Ⓐ, then remove the pallet.



WARNING:

To prevent electric shock, wear insulated protective gear.

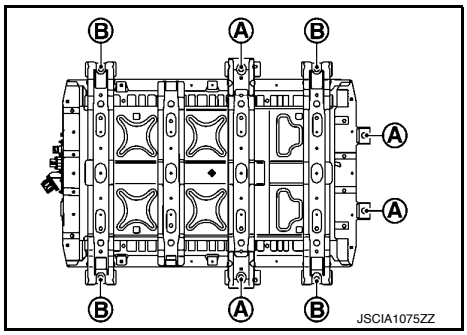
4. Install the Li-ion battery mounting bolts Ⓐ.

WARNING:

To prevent electric shock, wear insulated protective gear.

NOTE:

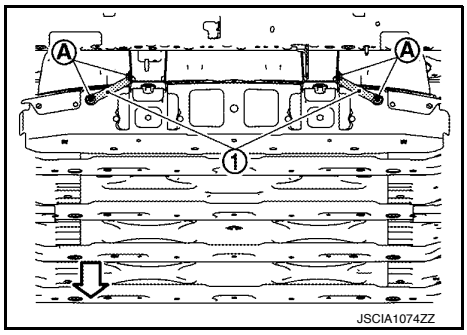
4 bolts Ⓑ are installed in previous step.



5. Install mounting bolts Ⓐ and bonding plates ①.

WARNING:

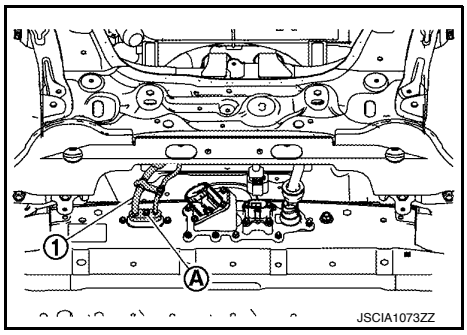
To prevent electric shock, wear insulated protective gear.



6. Install the A/C pipe ① and install the bolt Ⓐ.

DANGER:

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

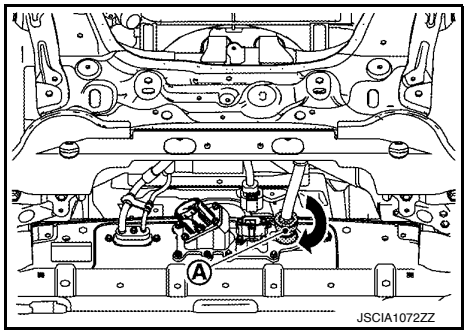


7. After installing the bonding plate, perform an electric equipotential test. EVB-498, "Inspection".

8. Rotate the vehicle communications connector Ⓐ clockwise to connect it.

WARNING:

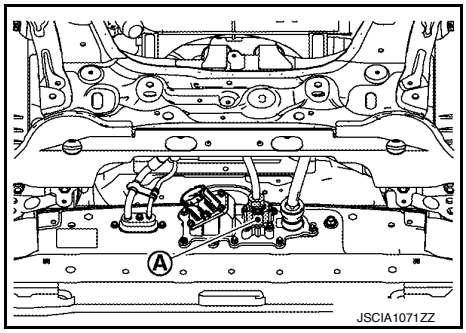
To prevent electric shock, wear insulated protective gear.



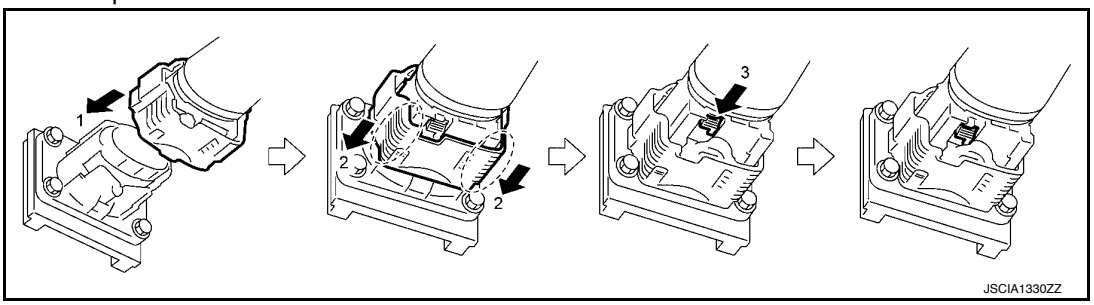
9. Install the PTC heater harness connector Ⓐ.

DANGER:

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



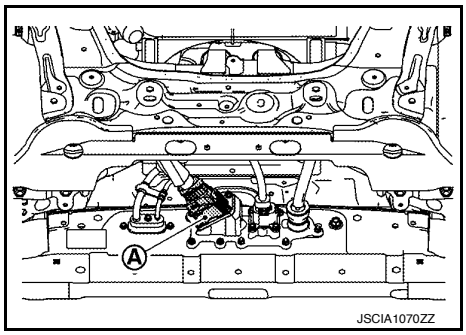
- Follow the procedure below to connect the heater harness connector.



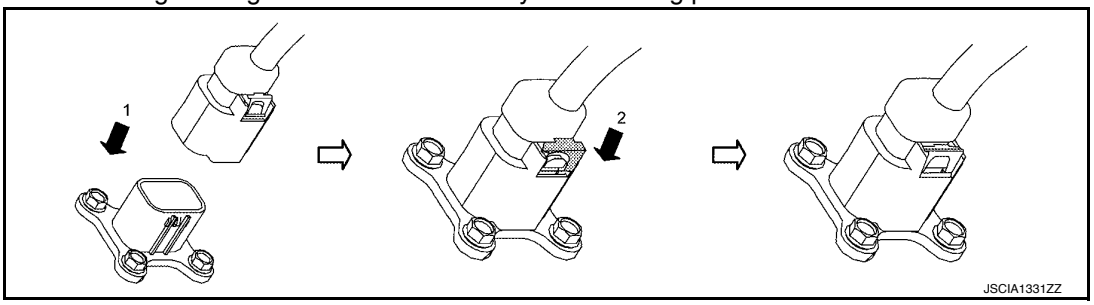
10. Install the high-voltage harness connector Ⓑ and install the harness clamp Ⓐ.

WARNING:

To prevent electric shock, wear insulated protective gear.



- Connect the high-voltage harness connector by the following procedure.



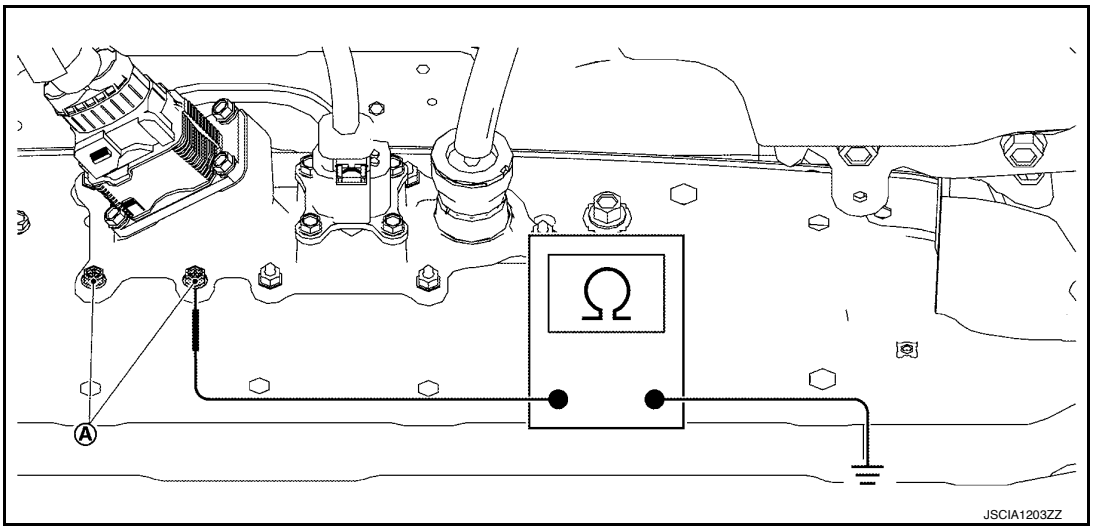
11. Install the Li-ion battery undercover. Refer to EVB-490, "Removal and Installation".
12. Install the service plug. Refer to EVB-283, "How to Disconnect High Voltage".
13. Charge the refrigerant. Refer to HA-27, "Charge Refrigerant" (For Europe) or HA-94, "Charge Refrigerant" (Except for Europe).

Inspection

INFOID:0000000011103350

ELECTRIC EQUIPOTENTIAL TEST

After installing the Li-ion battery, measure the resistance between the battery pack ground bolt Ⓐ and the body ground.



WARNING:

To prevent electric shock, wear insulated protective gear.

Standard : Less than 0.1 Ω

If the result deviates from the standard value, check the following and correct the malfunction location.
- Conditions of bonding plate connection
- Corrosion on bonding plate mounting surface
- Presence of paint, oil, dirt, or other substance on the bonding plate mounting surface