

Removal

HYBRID BATTERY CONTROL : HV BATTERY: REMOVAL

REMOVAL

1. PRECAUTION

See: Service Precautions

2. READ OUTPUT DTC

- (a) Check for DTCs See: Testing and Inspection\Reading and Clearing Diagnostic Trouble Codes\L110F Hybrid Vehicle Control System.

NOTE: Confirm that P0AA6 (Hybrid Battery Voltage System Isolation Fault) is not output before doing removal or installation work inside the battery. If the DTC is output, perform troubleshooting procedures first.

3. REMOVE LUGGAGE COMPARTMENT MAT SUB-ASSEMBLY

4. REMOVE BATTERY SERVICE HOLE COVER LH See: Starting and Charging\Battery

5. DISCONNECT BATTERY TERMINAL

- (a) Disconnect both the positive and negative terminals of the auxiliary battery.

CAUTION: Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.

NOTICE:

- When disconnecting the cable, some systems need to be initialized after the cable is reconnected See: Testing and Inspection\Programming and Relearning\Repair Instruction - Initialization
- After the power switch is turned OFF, the HDD navigation system requires approximately 6 minutes to record various types of memory and settings. As a result, after turning the power switch OFF, wait 6 minutes or more before disconnecting the cable from the negative (-) battery terminal. **HINT:** Both cables should be disconnected to prevent the AMD terminal from shorting to ground.

6. REMOVE BATTERY SERVICE HOLE COVER See: Hybrid Battery Service Switch\Service and Repair\Removal

7. REMOVE SERVICE PLUG GRIP See: Hybrid Battery Service Switch\Service and Repair\Removal

8. REMOVE COWL TOP VENTILATOR LOUVER RH See: Power Control System\Voltage Inverter\Service and Repair\Removal

9. REMOVE MOTOR CABLE COVER RH See: Power Control System\Voltage Inverter\Service and Repair\Removal

10. REMOVE INVERTER COVER ASSEMBLY RH See: Power Control System\Voltage Inverter\Service and Repair\Removal

11. REMOVE CONNECTOR COVER ASSEMBLY See: Power Control System\Voltage Inverter\Service and Repair\Removal

12. CHECK TERMINAL VOLTAGE See: Power Control System\Voltage Inverter\Service and Repair\Removal

13. INSTALL CONNECTOR COVER ASSEMBLY See: Power Control System\Voltage Inverter\Service and Repair\Installation

14. INSTALL INVERTER COVER ASSEMBLY RH See: Power Control System\Voltage Inverter\Service and Repair\Installation

15. INSTALL MOTOR CABLE COVER RH See: Power Control System\Voltage Inverter\Service and Repair\Installation

16. INSTALL COWL TOP VENTILATOR LOUVER RH See: Power Control System\Voltage Inverter\Service and Repair\Installation

17. REMOVE REAR SEAT ASSEMBLY (for Power Seat)

[See: Body and Frame\Seats\Service and Repair\Rear Seat Assembly \(for Power Seat\)\Removal](#)

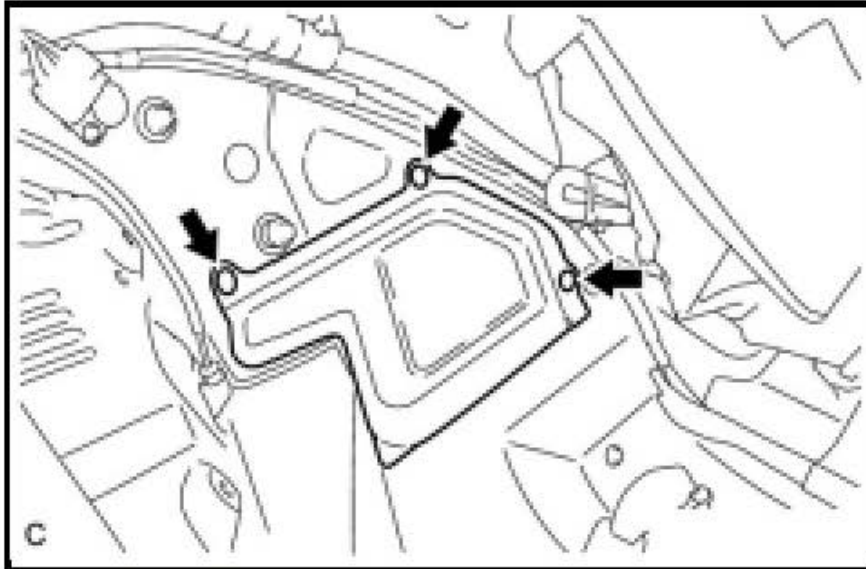
18. REMOVE REAR SEAT ASSEMBLY (for Ottoman)

[See: Body and Frame\Seats\Service and Repair\Rear Seat Assembly \(for Ottoman\)\Removal](#)

19. REMOVE REAR SEAT ASSEMBLY (for Fixed Seat Type)

[See: Body and Frame\Seats\Service and Repair\Rear Seat Assembly \(for Fixed Seat Type\)\Removal](#)

20. REMOVE NO. 1 CENTER FLOOR TO BRACE EXTENSION

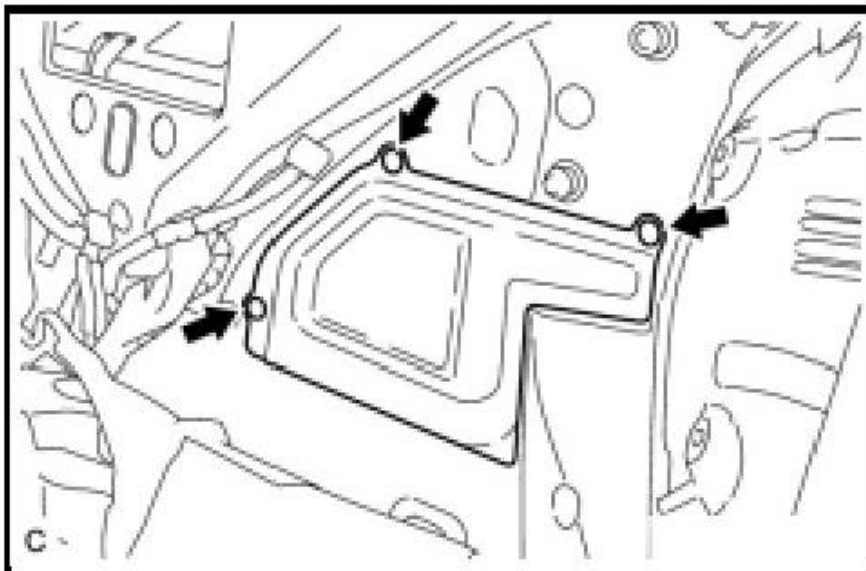


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(a) Remove the 3 clips and No. 1 center floor to brace extension.

21. REMOVE NO. 2 CENTER FLOOR TO BRACE EXTENSION

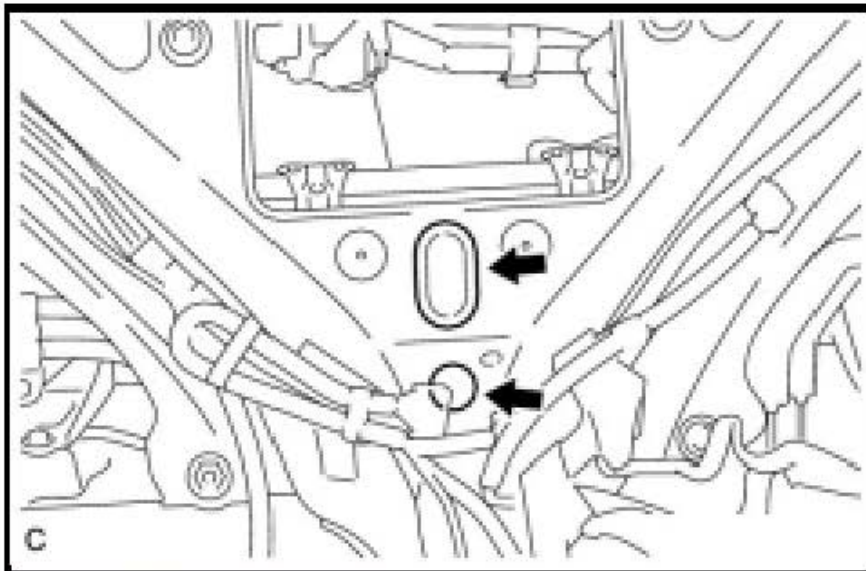


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(a) Remove the 3 clips and No. 2 center floor to brace extension.

22. REMOVE HOLE PLUG

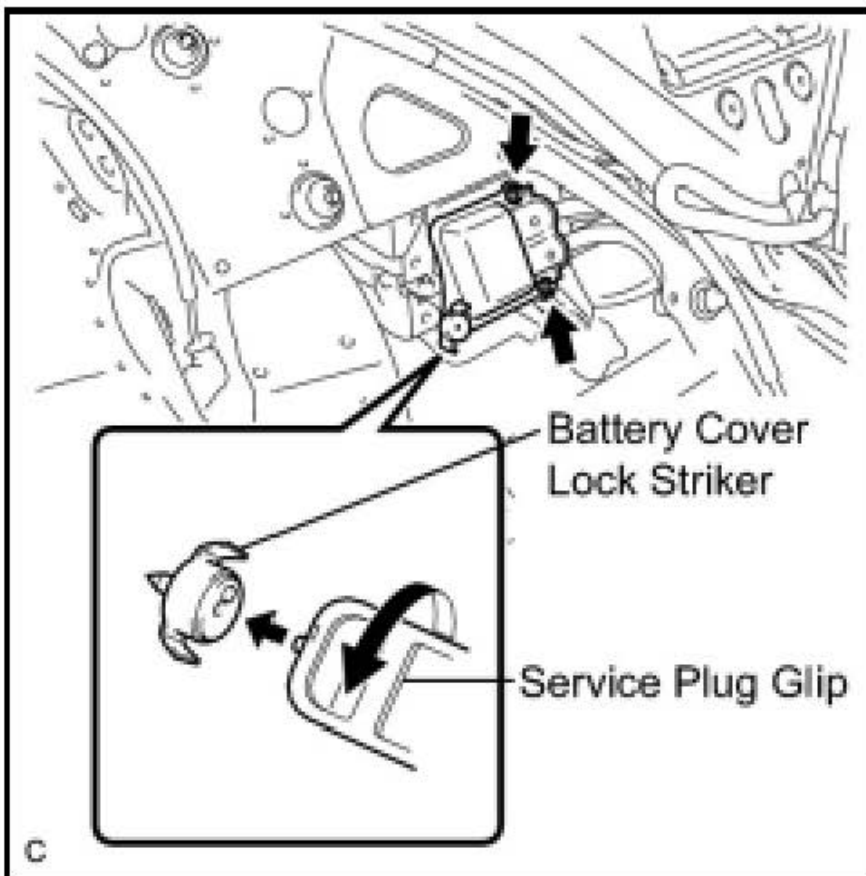


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(a) Remove the 2 hole plugs.

23. REMOVE NO. 2 HV BATTERY SHIELD SUB-ASSEMBLY **CAUTION: Wear insulated gloves.**

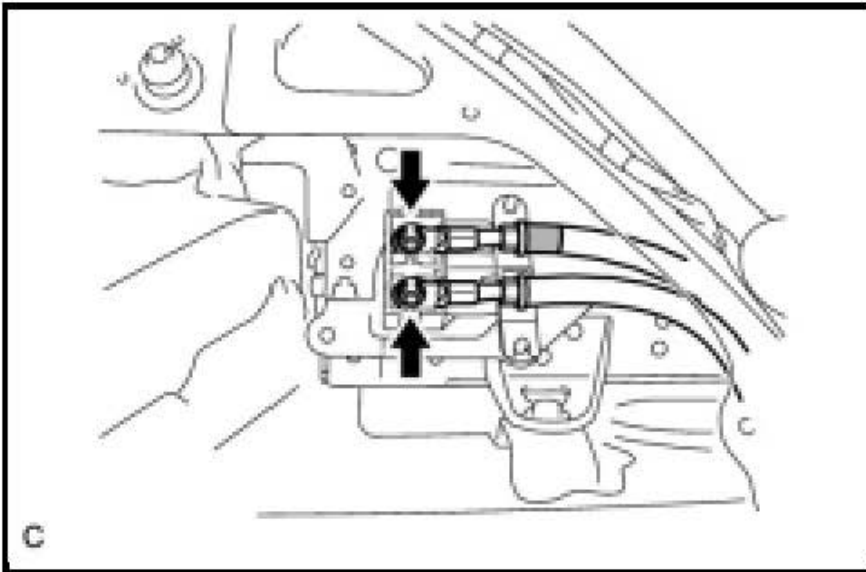


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- (a) Using the service plug grip, release the battery cover lock striker.
- (b) Remove the 2 nuts and disconnect the No. 2 HV battery shield sub-assembly from the HV battery.

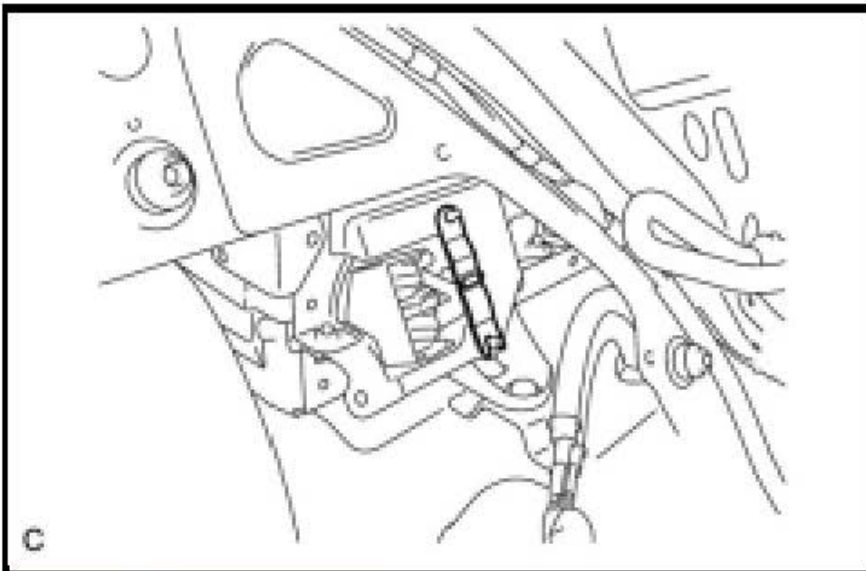
24. DISCONNECT FRAME WIRE **CAUTION: Wear insulated gloves.**



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- (a) Remove the 2 nuts, and disconnect the frame wire from the HV battery.

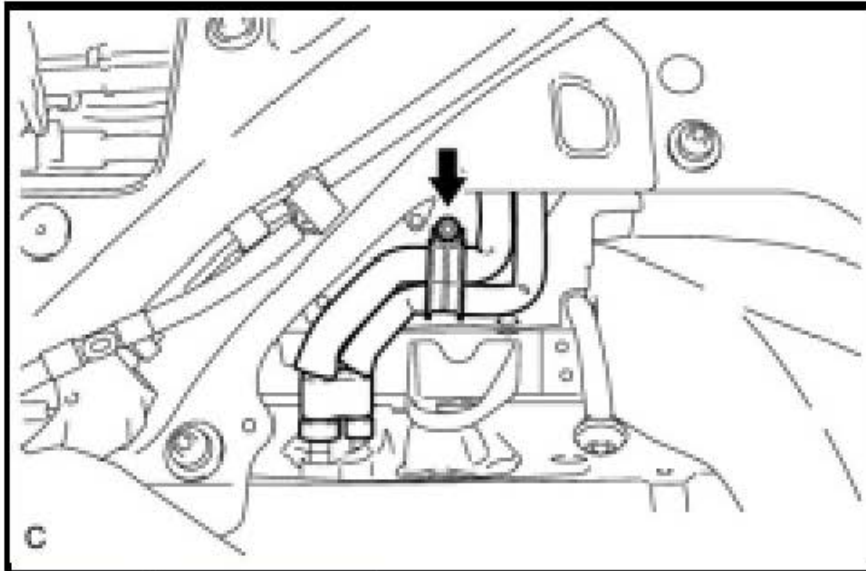
NOTE: Insulate the terminals of the removed high voltage wire with insulating tape.



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- (b) Remove the battery shield contact from the HV battery.

25. DISCONNECT AIR CONDITIONING TUBE ASSEMBLY

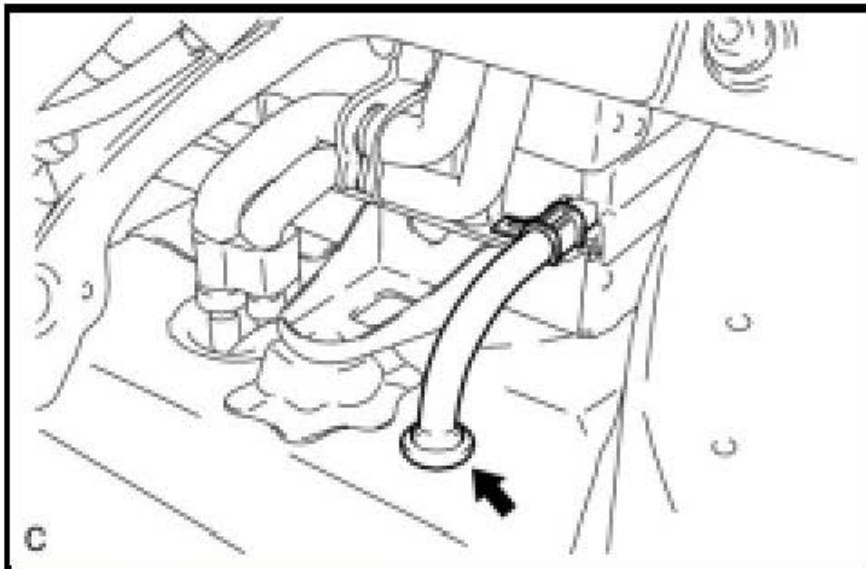


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(a) Remove the nut and disconnect the air conditioning tube assembly from the HV battery.

26. REMOVE BATTERY ROOM VENTILATION HOSE



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(a) Remove the grommet and battery room ventilation hose from the floor.

27. REMOVE NO. 1 COOLER COVER (w/ Rear Cooler) [See: Heating and Air Conditioning\Housing Assembly HVAC\Service and Repair\Air Conditioning Unit \(for Rear Side\)\Removal](#)

28. REMOVE ROPE HOOK

29. REMOVE ROPE HOOK ASSEMBLY

30. REMOVE DECK TRIM SIDE BOARD RH

31. REMOVE NO. 1 LUGGAGE COMPARTMENT LIGHT ASSEMBLY

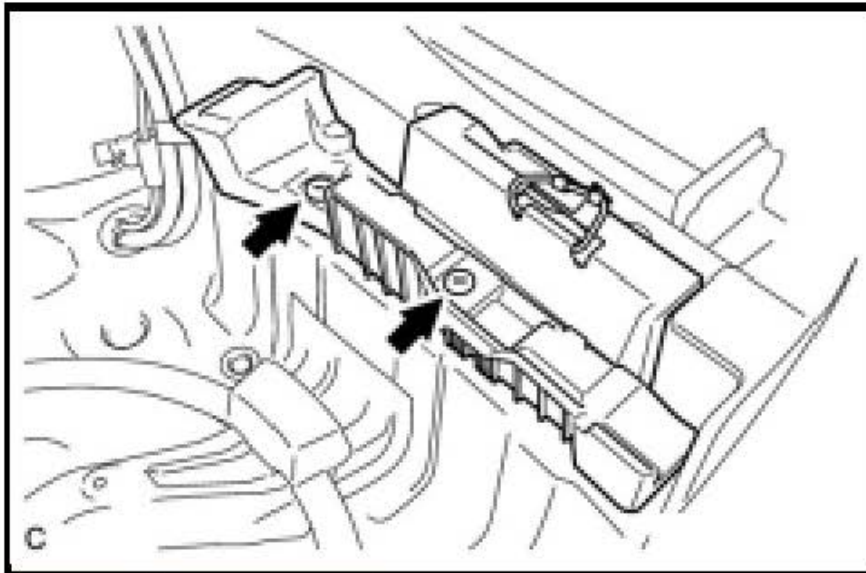
32. REMOVE FRONT LUGGAGE COMPARTMENT TRIM COVER

33. REMOVE REAR FLOOR FINISH PLATE

34. REMOVE LUGGAGE COMPARTMENT TRIM COVER ASSEMBLY LH

35. REMOVE LUGGAGE COMPARTMENT TRIM COVER ASSEMBLY RH

- 36. REMOVE NO. 3 HV BATTERY INTAKE DUCT [See: Battery Cooling Fan/Service and Repair/Removal](#)
- 37. REMOVE NO. 2 HV BATTERY INTAKE DUCT [See: Battery Cooling Fan/Service and Repair/Removal](#)
- 38. REMOVE BATTERY COOLING BLOWER ASSEMBLY [See: Battery Cooling Fan/Service and Repair/Removal](#)
- 39. REMOVE SPARE WHEEL GUARD SUB-ASSEMBLY

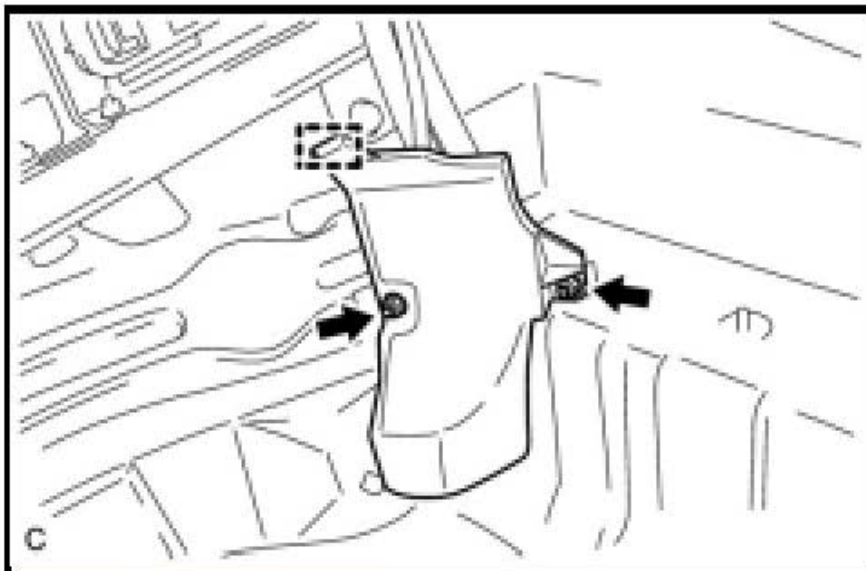


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- (a) Remove the 2 clips and spare wheel guard sub-assembly.

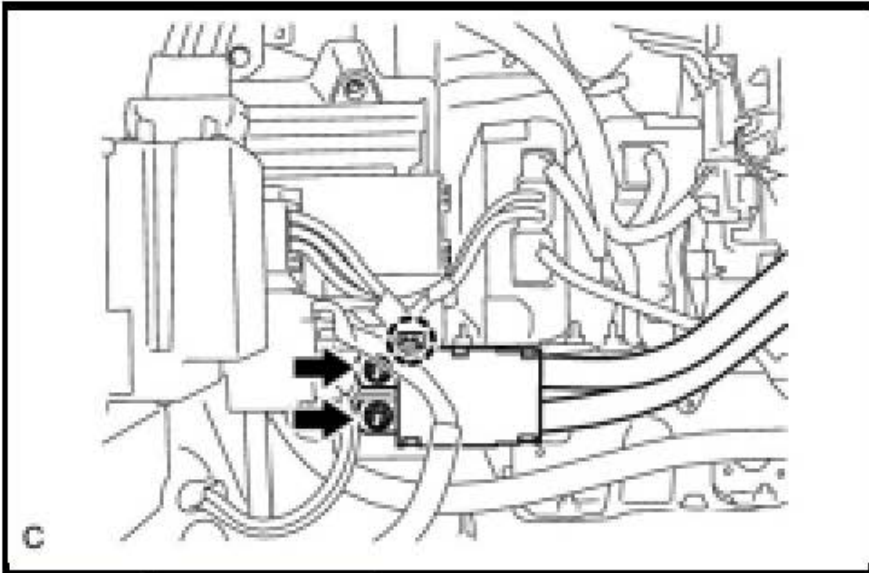
40. SEPARATE HV BATTERY **CAUTION: Wear insulated gloves.**



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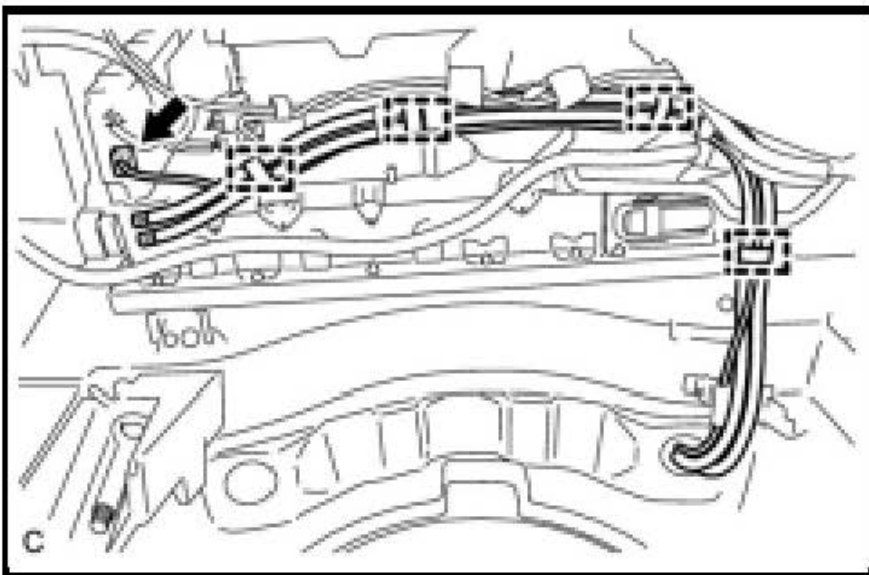
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- (a) Remove the 2 nuts, clamp and wire harness protector.



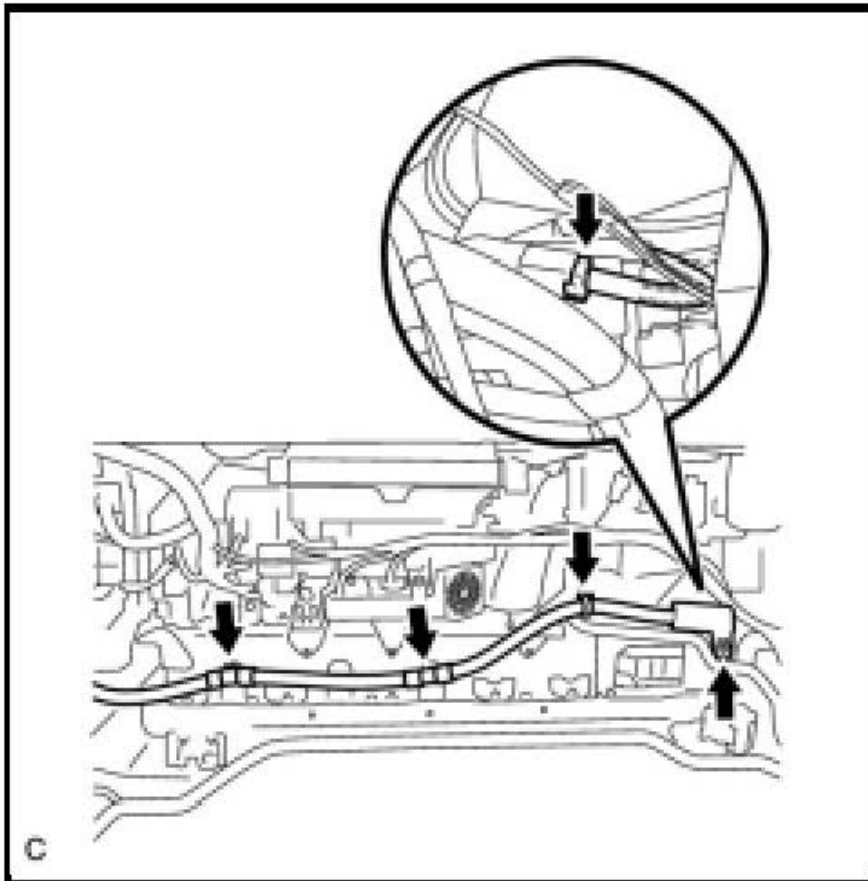
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(b) Release the claw, remove the 2 nuts and separate the frame wire from the luggage room junction block.



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(c) Remove the connector, release the 4 claws and separate the frame wire from the HV battery.

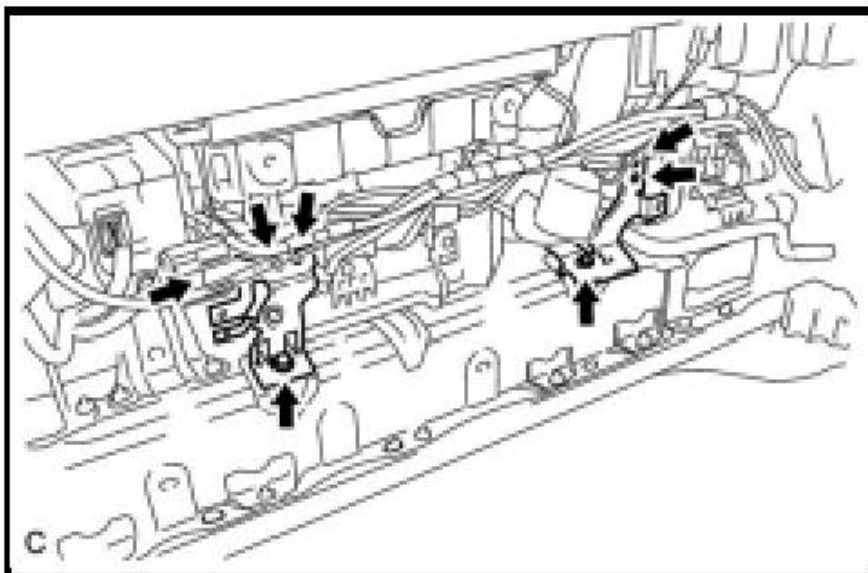


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- (d) Remove the connector and 3 clamps.
- (e) Remove the nut and disconnect the AMD from the hybrid vehicle converter.

NOTE: Insulate the terminals of the removed wire with insulating tape to prevent a short to body ground.

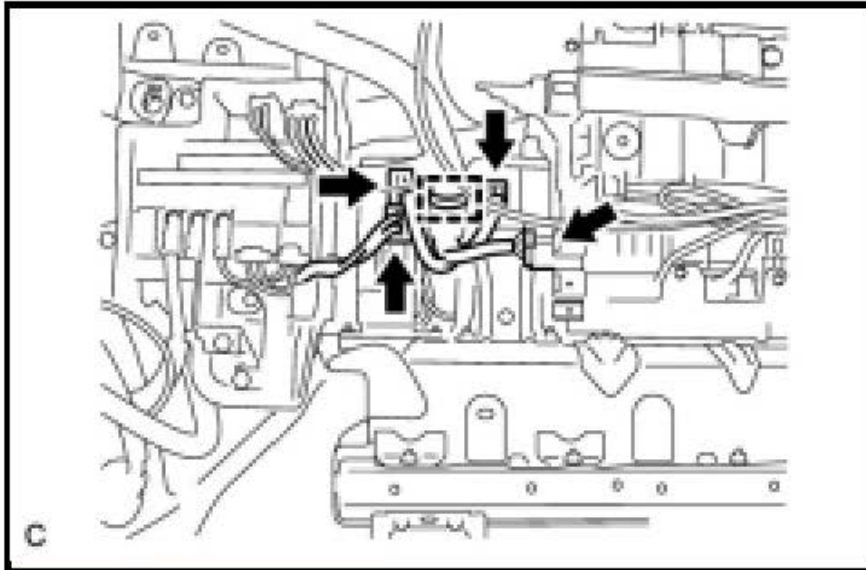


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- (f) Disconnect the connector clamp.
- (g) Remove the 4 screws, 2 bolts and 2 rear cooler brackets.
- (h) Pull out the rear air conditioning drain hose from the floor.

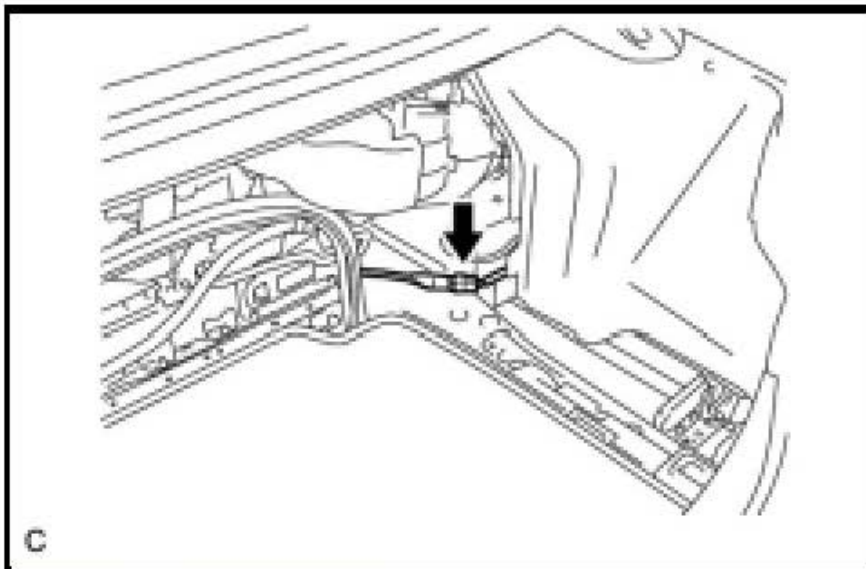
NOTE: Do not allow water remaining in the drain hose to spill on the HV battery assembly.



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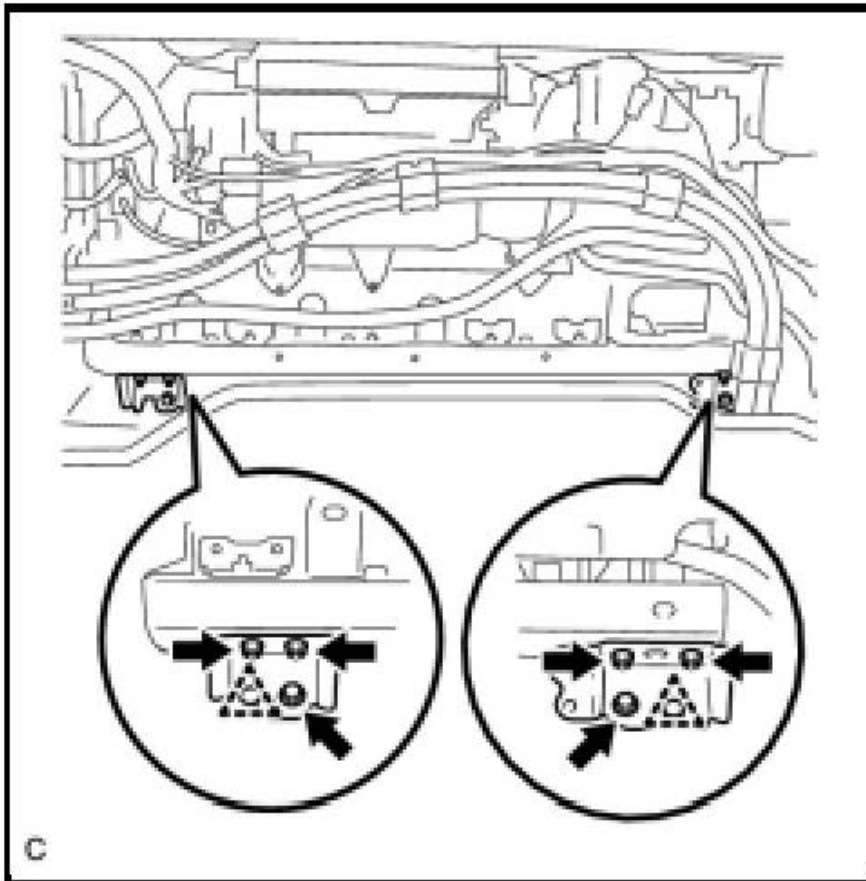
- (i) Remove the 4 connectors and clamp and then disconnect the wire harness.



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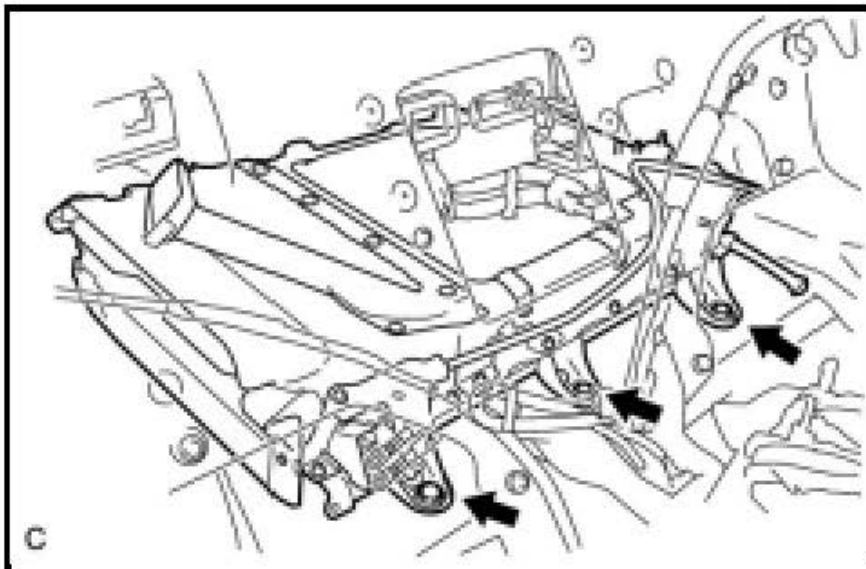
- (j) Disconnect the battery pack wire connector.



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(k) Remove the 2 clips, 4 nuts, 2 bolts and 2 HV battery brackets.

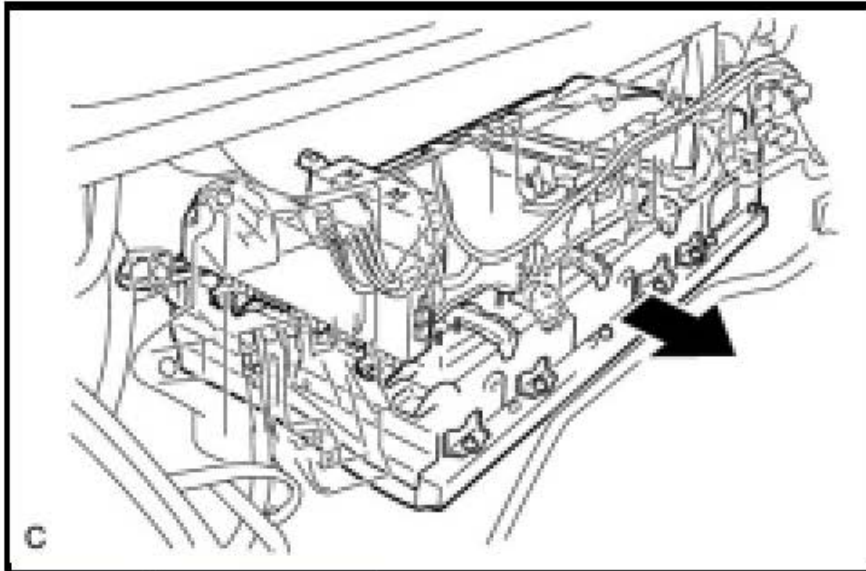


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(l) Remove the 3 bolts for the front part of the HV battery assembly from the cabin side.

(m) Install the luggage compartment floor mat upside down.



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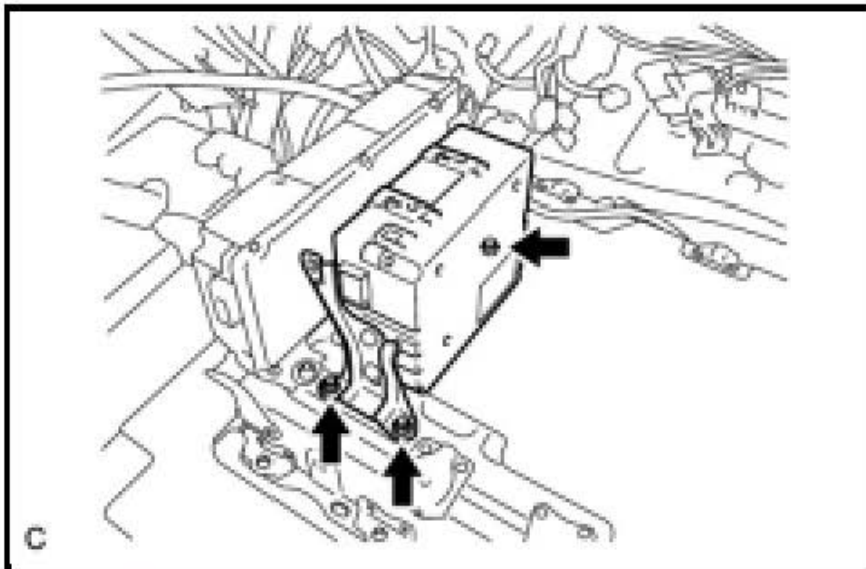
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(n) Pull out the HV battery assembly onto the luggage compartment floor mat.

HINT: When pulling out the HV battery assembly, moving the HV battery assembly toward the left side of the vehicle will make this work easier.

- When pulling out the HV battery assembly, 2 people are needed. One should work from the luggage compartment side and the other from the cabin side.
- Do not allow water in the rear air conditioning drain hose to spill out.
- When pulling out the HV battery assembly, do not allow the wire harnesses and the HV battery assembly case to interfere with the vehicle body.
- When pulling out the HV battery assembly, do not allow the heat insulator on top of the HV battery assembly to be torn due to interference with parts such as the rear air conditioning unit.

41. REMOVE BRAKE CONTROL POWER SUPPLY ASSEMBLY **CAUTION: Wear insulated gloves.**

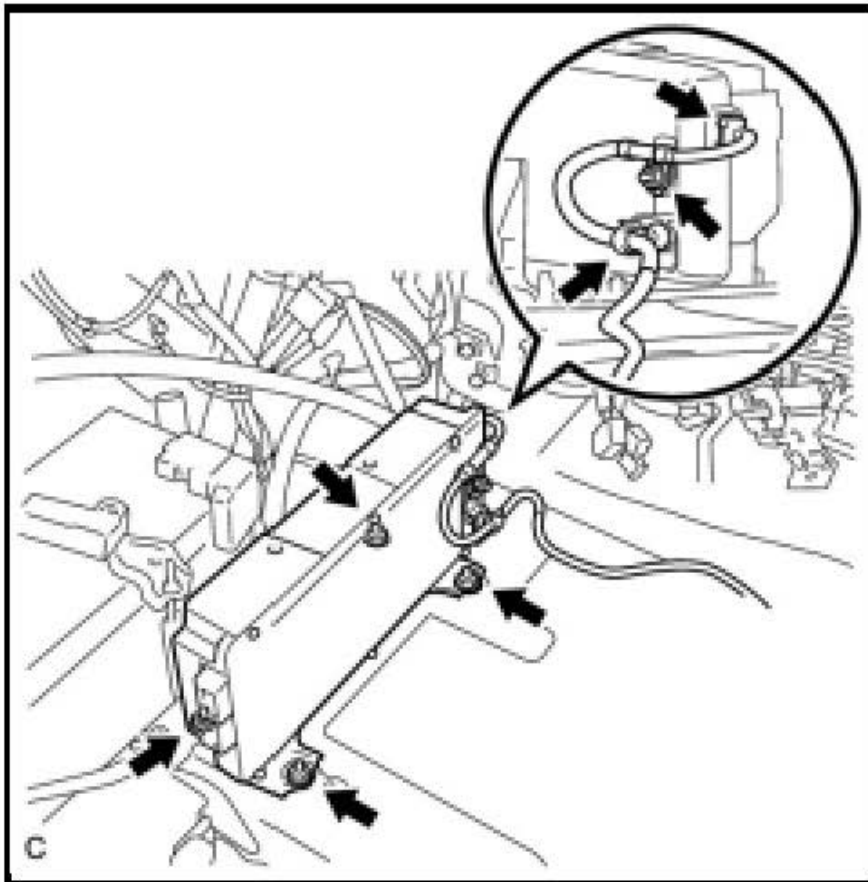


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(a) Remove the 3 bolts and brake control power supply assembly from the HV battery assembly.

42. REMOVE POWER STEERING CONVERTER ASSEMBLY **CAUTION: Wear insulated gloves.**

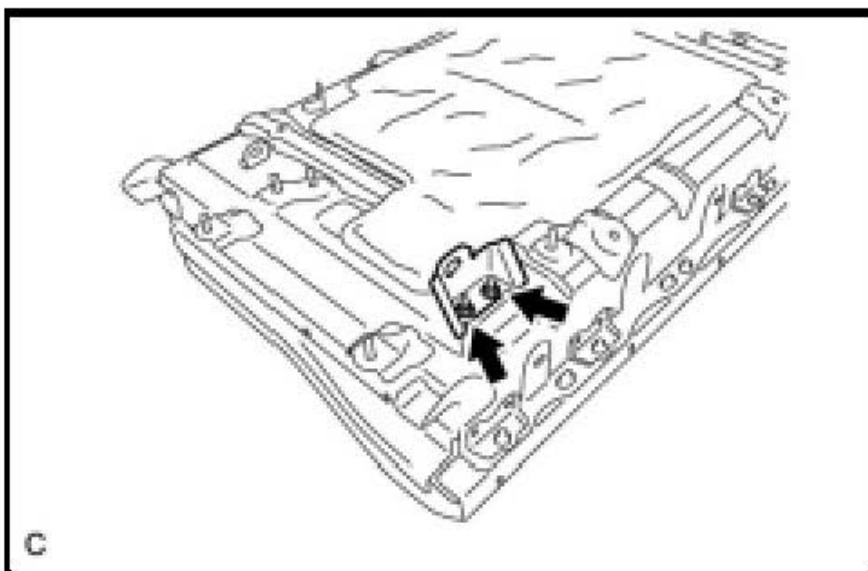


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- (a) Remove the connector, clamp and nut and disconnect the power steering converter wire from the power steering converter assembly.
- (b) Remove the 4 bolts and power steering converter assembly from the HV battery.

43. REMOVE HV BATTERY **CAUTION: Wear insulated gloves.**

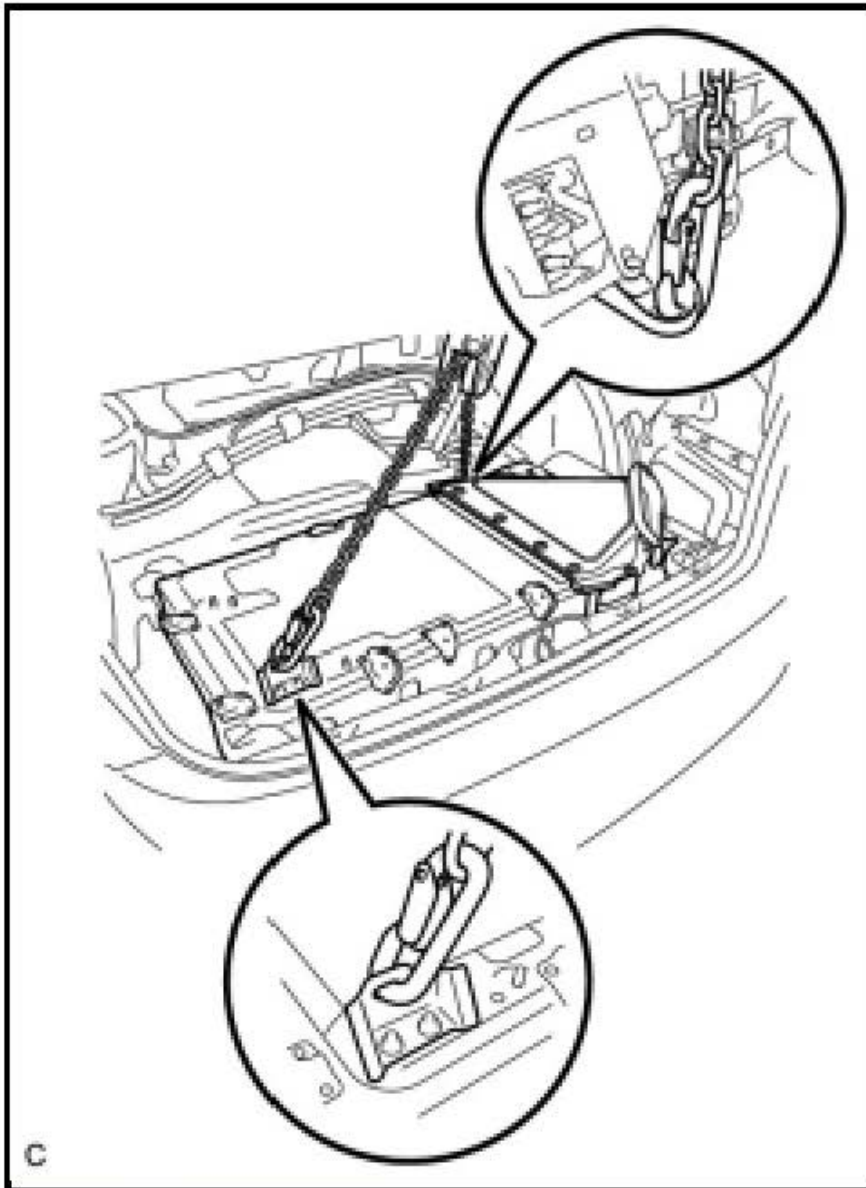


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(a) Install the HV battery bracket LH to the position shown in the illustration.

Torque: 7.5 Nm (77 kgf-cm, 66 in-lbf)



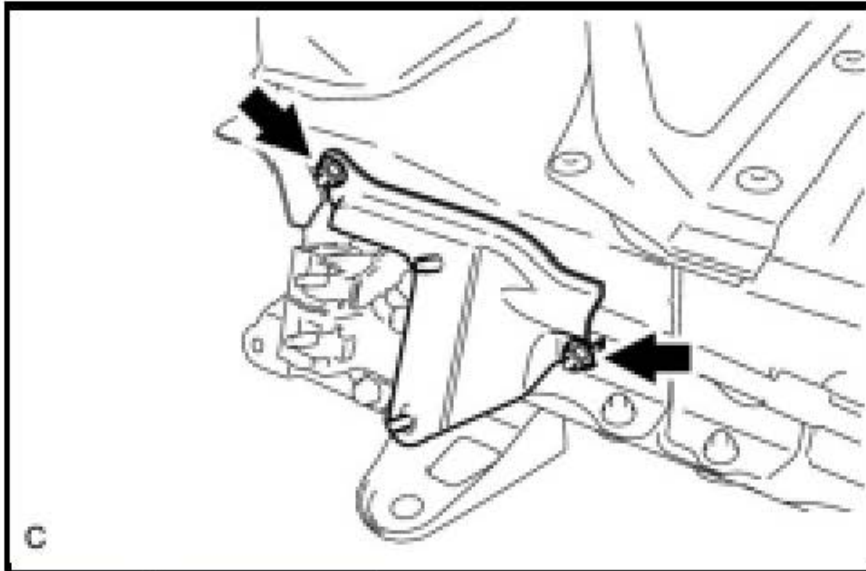
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(b) Using an engine sling device, remove the HV battery from the vehicle.

- Use cardboard or other similar material to protect the HV battery and vehicle body from damage.
- If it is difficult to install the engine sling device to the bracket holes, use a suitable adaptor such as a rope to install the engine sling device.

44. REMOVE NO. 1 HV BATTERY SHIELD SUB-ASSEMBLY **CAUTION: Wear insulated gloves.**

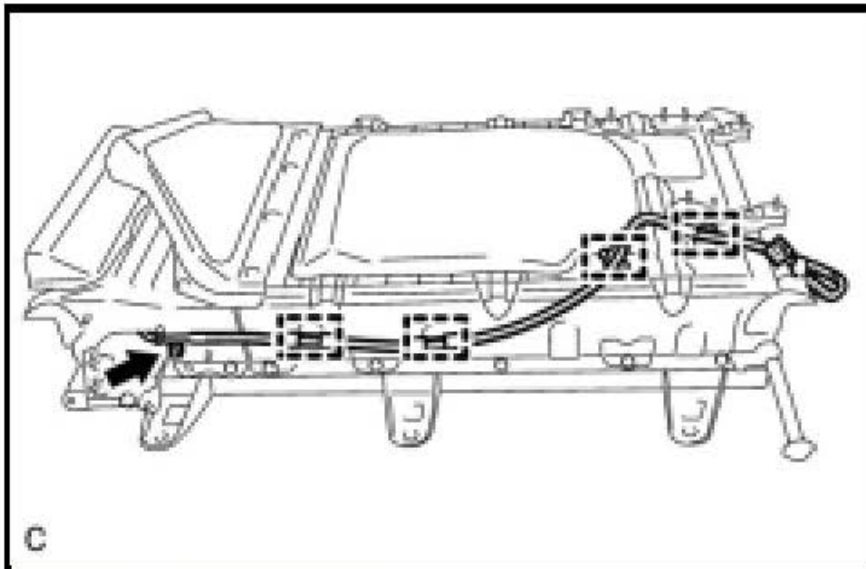


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(a) Remove the 2 nuts and No. 1 HV battery shield sub-assembly from the upper HV battery cover.

45. SEPARATE POWER STEERING CONVERTER WIRE **CAUTION: Wear insulated gloves.**

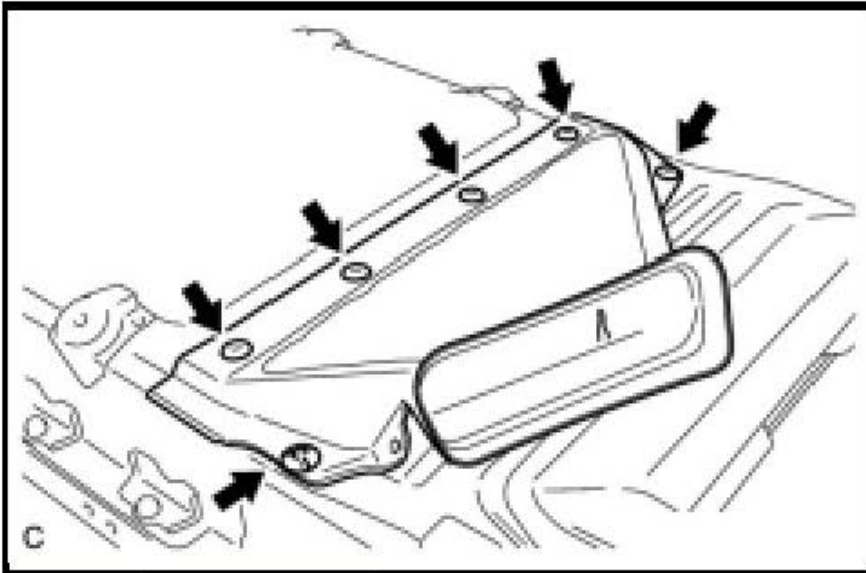


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(a) Remove the 4 clamps and nut and disconnect the power steering converter wire from the HV battery assembly.

46. REMOVE NO. 1 HV BATTERY COVER INTAKE DUCT **CAUTION: Wear insulated gloves.**

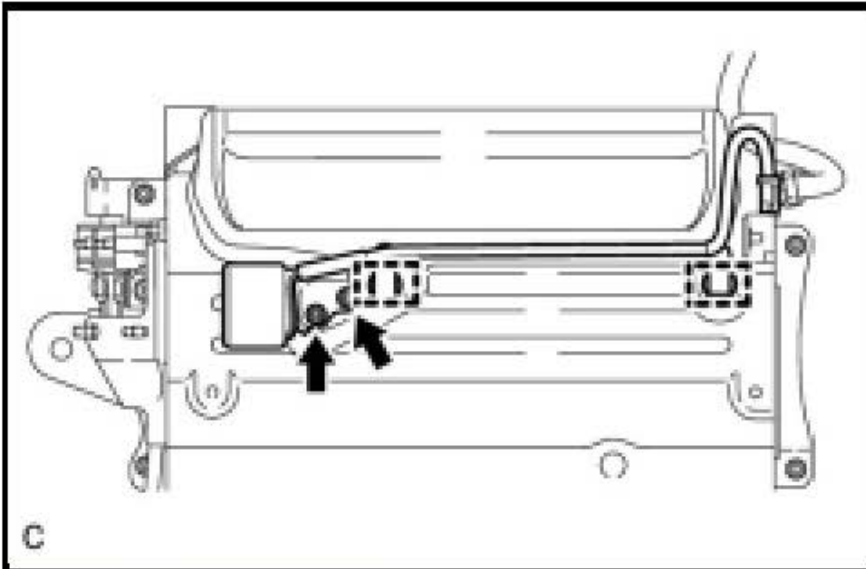


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(a) Remove the 6 clips and No. 1 HV battery cover intake duct from the upper HV battery cover.

47. REMOVE CONDENSER **CAUTION: Wear insulated gloves.**

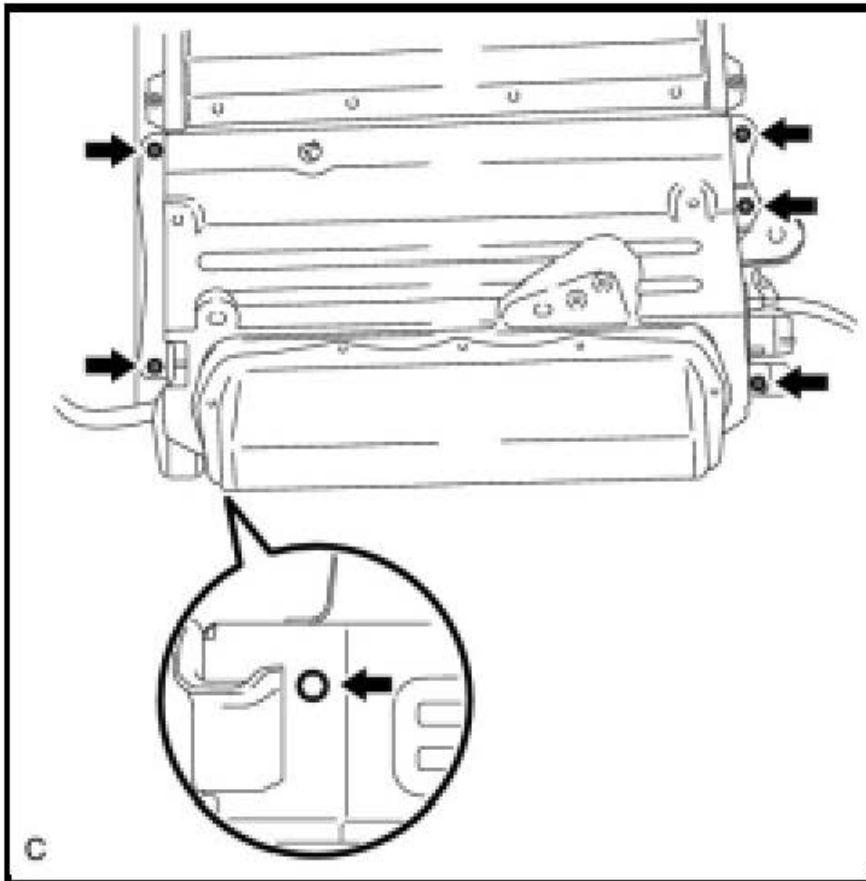


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(a) Remove the 2 clamps, 2 nuts and condenser from the upper HV battery cover.

48. REMOVE UPPER HV BATTERY COVER SUB-ASSEMBLY **CAUTION: Wear insulated gloves.**



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(a) Remove the 5 nuts, bolt and upper HV battery cover from the HV battery.

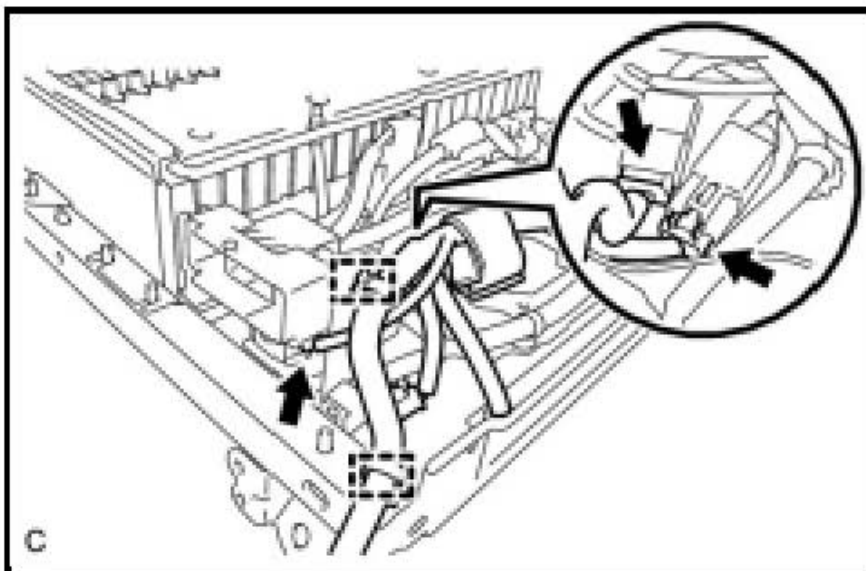
49. REMOVE HYBRID VEHICLE CONVERTER [See: Power Control System\Voltage Converter\Service and Repair\Hybrid Vehicle Converter\Removal](#)

50. REMOVE HV BATTERY TERMINAL BLOCK [See: Power Control System\System Main Relay, Hybrid Drive\Service and Repair\Removal](#)

51. REMOVE HV BATTERY JUNCTION BLOCK ASSEMBLY [See: Power Control System\System Main Relay, Hybrid Drive\Service and Repair\Removal](#)

52. REMOVE BATTERY SMART UNIT [See: Battery Smart Unit\Removal](#)

53. REMOVE NO. 2 HV BATTERY PACK WIRE **CAUTION: Wear insulated gloves.**

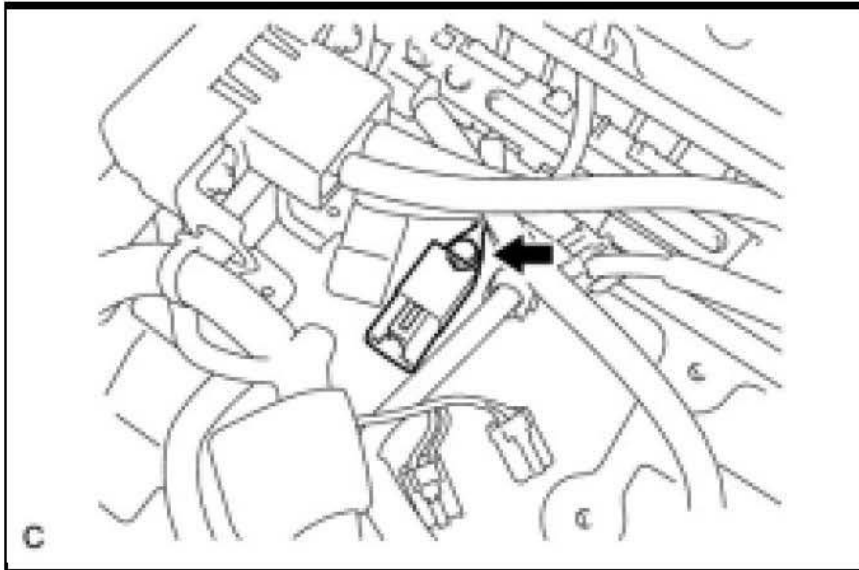


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(a) Remove the 3 connectors, 2 clamps and No. 2 HV battery pack wire from the HV battery assembly.

54. REMOVE CONDENSER **CAUTION: Wear insulated gloves.**



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(a) Remove the bolt and condenser from the HV battery assembly.