April 6, 2020 Version 3

Safety Recall: 2017-18 Fuel Cell Clarity: FC Electric Water Pump Product Update: 2017-18 Fuel Cell Clarity Fuel Cell Stack Replacement

Supersedes 19-054, dated June 14, 2019, see REVISION SUMMARY

AFFECTED VEHICLES

Year	Model	Trim	VIN Range
2017-18	Clarity Fuel Cell	ALL	Check the iN VIN status for eligibility.

⚠ WARNING

Failure to properly vent the hydrogen tanks and fuel lines prior to the fuel cell stack replacement can result in hydrogen gas leaks.

Hydrogen gas is flammable and highly explosive. You can be seriously injured or killed if the leaking hydrogen gas is ignited.

Turn off the fuel cell system, and keep heat, sparks, and flames away.

Always follow the precautions for the fuel cell system listed in the service information.

The power cables carry high voltage when the fuel cell system is energized. To avoid serious injury from electrical shock, do not turn on the system with the power cables disconnected.

REVISION SUMMARY

This bulletin has been extensively revised, American Honda recommends reviewing the entire bulletin.

BACKGROUND

The fuel cell (FC) system uses an electric water pump to circulate insulating fluid and remove excess heat from the fuel cell stack. During manufacturing, the water pump's magnetic surface was not treated for corrosion resistance. Over time, the corrosion may prevent the water pump's motor from starting, which will prevent the vehicle from starting. If this happens while driving, the vehicle can only be driven for a short distance at greatly reduced power.

There are three similar bulletins for the 2017-18 Clarity Fuel Cell:

19-006, *Product Update: Clarity Fuel Cell Stack Replacement*

19-050, *Safety Recall: 2017-18 Fuel Cell Clarity: FC Electric Water Pump*

19-054, *Safety Recall: 2017-18 Fuel Cell Clarity: FC Electric Water Pump and Fuel Cell Stack / Product Update: 2017-18 Fuel Cell Clarity Fuel Cell Stack Replacement*

Do an iN VIN status inquiry, and follow the repair procedure in the indicated bulletin.

CUSTOMER INFORMATION: The information in this bulletin is intended for use only by skilled technicians who have the proper tools, equipment, and training to correctly and safely maintain your vehicle. These procedures should not be attempted by “do-it-yourselfers,” and you should not assume this bulletin applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Honda automobile dealer.

CUSTOMER NOTIFICATION

Owners of affected vehicles will be sent a notification of this campaign.

Do an iN VIN status inquiry to make sure the vehicle is shown as eligible.

Some vehicles affected by this campaign may be in your new or used vehicle inventory.

Failure to repair a vehicle subject to a recall or campaign may subject your dealership to claims or lawsuits from the customer or anyone else harmed as a result of such failure. To see if a vehicle in inventory is affected by this safety recall, do a VIN status inquiry before selling it.

CORRECTIVE ACTION

Replace the FC electric water pump and FC stack.

NOTE

AHM will determine if your dealer will receive a new FC stack or will use a donor vehicle.

Place the order for all required parts as usual. If a donor vehicle is going to be used, the stack order will be canceled by the parts department. Then, your DPSM will contact your dealership to let you know which vehicle will be used for a donor.

There is a separate REPAIR PROCEDURE, WARRANTY CLAIM INFORMATION, and PARTS INFORMATION for when you use a new FC stack or a donor FC stack. Make sure you use the applicable information, or your claim may be debited.

PARTS INFORMATION (NEW FC STACK)

AHM will determine if your dealer will receive a new FC stack, or if your dealer will use a donor vehicle.

Place the order for all required parts as usual. If a donor vehicle is going to be used, the stack order will be canceled by the parts department. Then, your DPSM will contact your dealership to let you know which vehicle will be used for a donor.

NOTE

Information for warranty: Use the parts information below only if a **brand new FC stack** was installed. Go to PARTS INFORMATION (Donor FC Stack) if a donor FC stack was installed.

Part Name	Part Number	Quantity
Electric Water Pump Assembly	3H300-5WM-A04	1
Fuel Cell Stack*	3A100-5WM-A30	1
Stack Kit*	063A0-5WM-305	1
Ion Filter	3H450-5WM-A01	1
Honda Genuine Fuel Cell Insulating Fluid - 50% Prediluted Formulation	OL999-9014	2

*These controlled parts require the VIN of an affected vehicle to place an order.

WARRANTY CLAIM INFORMATION (NEW FC STACK)

Operation Number	Description	Flat Rate Time	Defect Code	Symptom Code	Template ID	Failed Part Number
1141AL	Safety Recall: Replace the FC electric water pump.	0.2 hr	6WP00	W5500	A19054B	3H300-5WM-A02
3101GS	Replace the FC stack and ion filter **(new FC stack)**.	13.4 hr	6CJ00	M3S00	A19054A	3A100-5WM-A30

Skill Level: Fuel Cell Certified Technician

NOTE

Make sure you indicate the VIN, mileage, and date on the replaced part and its box.

PARTS INFORMATION (DONOR FC STACK)

AHM will determine if your dealer will receive a new FC stack or will use FC stack from a donor vehicle.

Place the order for all required parts as usual. If a donor vehicle is going to be used, the stack order will be canceled by the Parts department. Then, your DPSM will contact your dealership to let you know which vehicle will be used for a donor.

NOTE

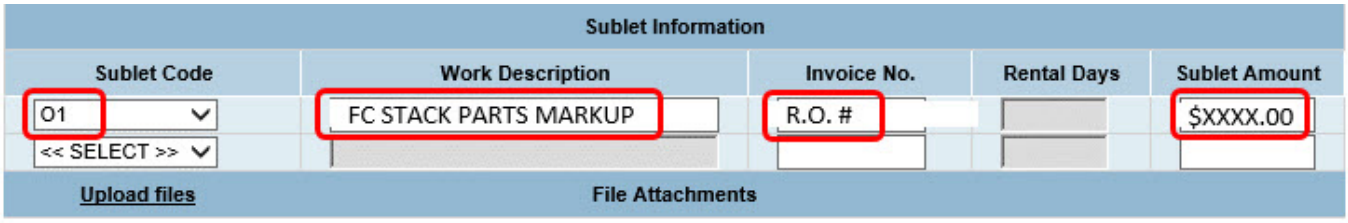
Information for warranty: Use the parts information below only if a **donor FC stack** was installed. Go to PARTS INFORMATION (New FC Stack) if a brand new FC stack was installed.

Part Name	Part Number	Quantity
Electric Water Pump Assembly	3H300-5WM-A04	1
Fuel Cell Stack* (Use this part number for parts ordering purposes only. You may be told to use a donor stack.)	3A100-5WM-A30	1

If a donor FC stack was installed, follow the steps listed to submit your claim.

1. Look up the current dealer net price for a new FC stack (3A100-5WM-A30).
2. Determine your dealer's part replacement/handling markup method (below) to calculate your markup charge:
   - Normal handling mark-up (40%)
   - Warranty at Retail
   - MSRP

   Examples: (Dealer Net for FC stack - **$22,307.91**)
   - Example 1 (40% parts markup): **$8,923.16** to be entered in the O1 sublet (40% of **$22,307.91**)
   - Example 2 (71.23% parts markup): **$15,889.92** to be entered in the O1 sublet (71.23% of **$22,307.91**)
   - Example 3 (MSRP): **$8,829.69** to be entered in the O1 sublet (**$31,137.60** MSRP - **$22,307.91** Dealer Net)
3. Select **O1** from the **Sublet Code** drop-down.
4. Enter FC STACK PARTS MARKUP under **Work Description**.
5. Enter the RO number under **Invoice No.**
6. Enter the calculated part handling markup in the **Sublet Amount** field.



Stack Kit*	063A0-5WM-305	1
Ion Filter	3H450-5WM-A01	1
Honda Genuine Fuel Cell Insulating Fluid - 50% Prediluted Formulation	OL999-9014	2

*These controlled parts require the VIN of an affected vehicle to place an order.

WARRANTY CLAIM INFORMATION (DONOR FC STACK)

Important: When removing the FC stack from the donor vehicle, the technician was required to write down the VIN and FC stack serial number of the donor vehicle on the RO. If the VIN and FC stack serial number from the donor vehicle are missing on the warranty claim, the claim will be debited.

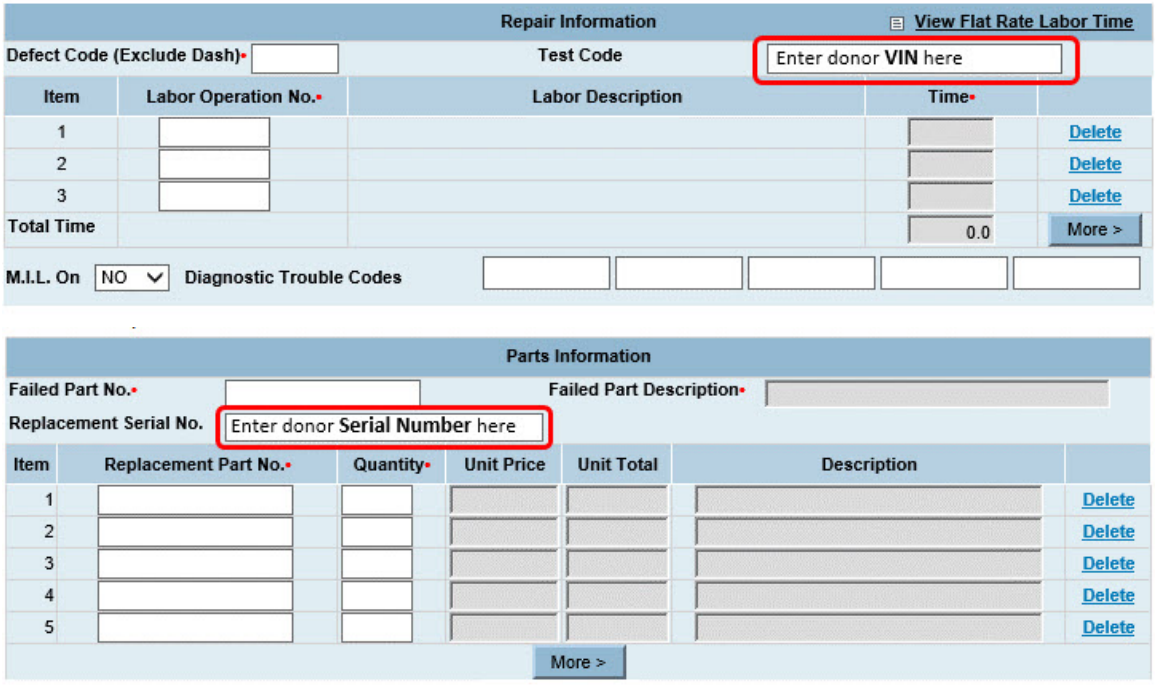
Operation Number	Description	Flat Rate Time	Defect Code	Symptom Code	Template ID	Failed Part Number
1141AL	Safety Recall: Replace the FC electric water pump.	0.2 hr	6WP00	W5500	A19054B	3H300-5WM-A02
3101HJ	Replace the FC stack and ion filter **(donor FC stack)**.	18.8 hr	6CJ00	M3S00	A19054C	3A100-5WM-A30

Skill Level: Fuel Cell Certified Technician

Required Information

Enter the VIN and serial number from the donor FC stack as shown below:

***Failure to provide this information will result in a debit.**



REQUIRED MATERIALS

Part Name	Part Number	Quantity
Antifreeze/Coolant	OL999-9011	2

TOOL INFORMATION

Part Name	Part Number	Quantity
Universal Lifting Eyelet	07AAK-SNAA129	1
Oil Filter Wrench	07HAA-PJ70101	1
Transmission Hanger Bracket (This tool is not included in the required tools cabinet. Order one only if needed.)	21232-RCT-A00	1

REPAIR PROCEDURE (NEW STACK)

NOTES

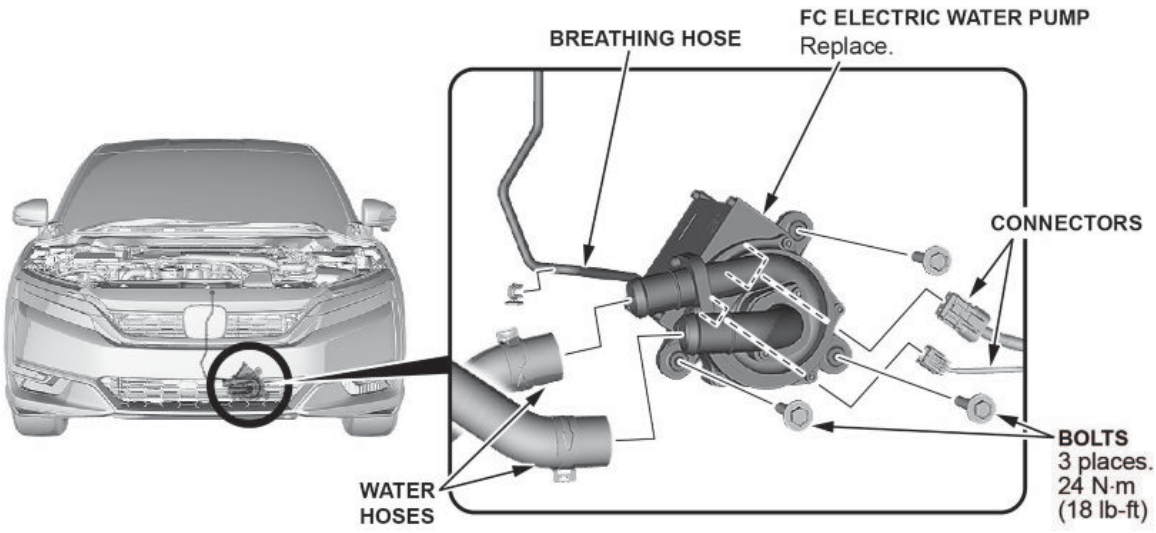
- When working on or around the fuel cell system, pay attention to the service precautions for the fuel cell system.
- Refer to the job aid *Fuel Cell Service Equipment Kit and Portable Vent Stack* for proper use of the venting equipment.

1. Remove the fuel cell stack as described in the service information. Click HERE to watch a video on fuel cell stack removal.

   NOTE

   After the fuel cell stack has been removed, go to step 2 of this bulletin to replace the FC electric water pump.

2. Disconnect both water hoses from the FC electric water pump.



3. Remove the three FC water pump mounting bolts.
4. Disconnect the breathing hose.
5. Move the FC electric water pump out of the way and disconnect two connectors located behind it.
6. Install a new FC electric water pump in the reverse order of removal.
7. Once the new FC electric water pump is installed. Go back to the service information to install the fuel cell stack.

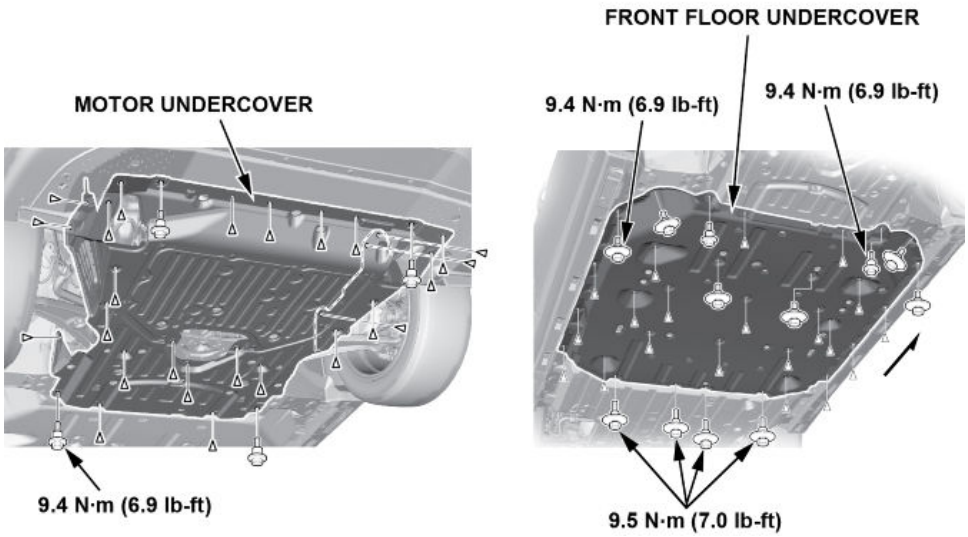
REPAIR PROCEDURE (DONOR FC STACK)

NOTES

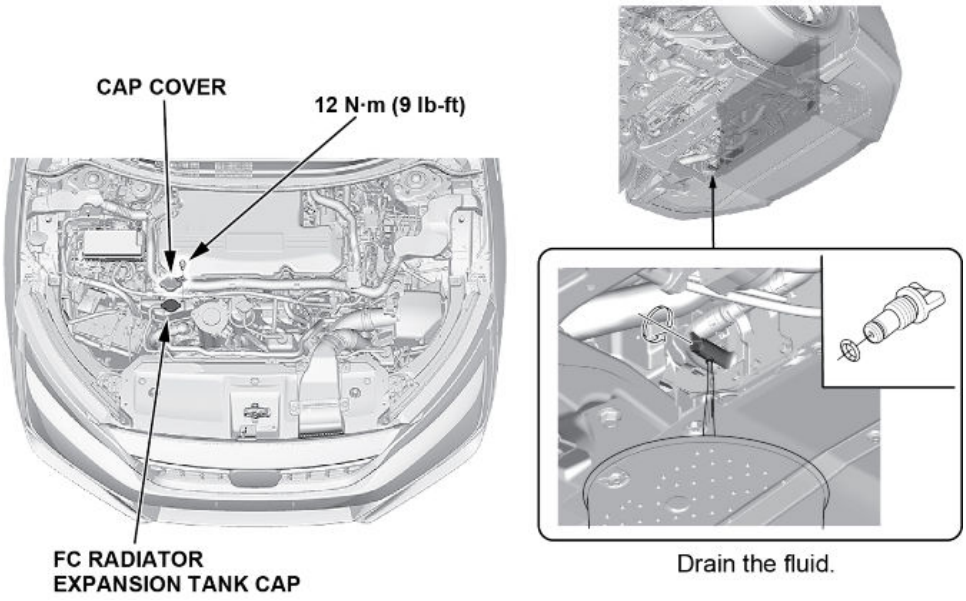
- When working on or around the fuel cell system, pay attention to the service precautions for the fuel cell system.
- Refer to the job aid *Fuel Cell Service Equipment Kit and Portable Vent Stack* for proper use of the venting equipment.

Preparing the Vehicle Requiring an FC Stack and FC Water Pump Replacement

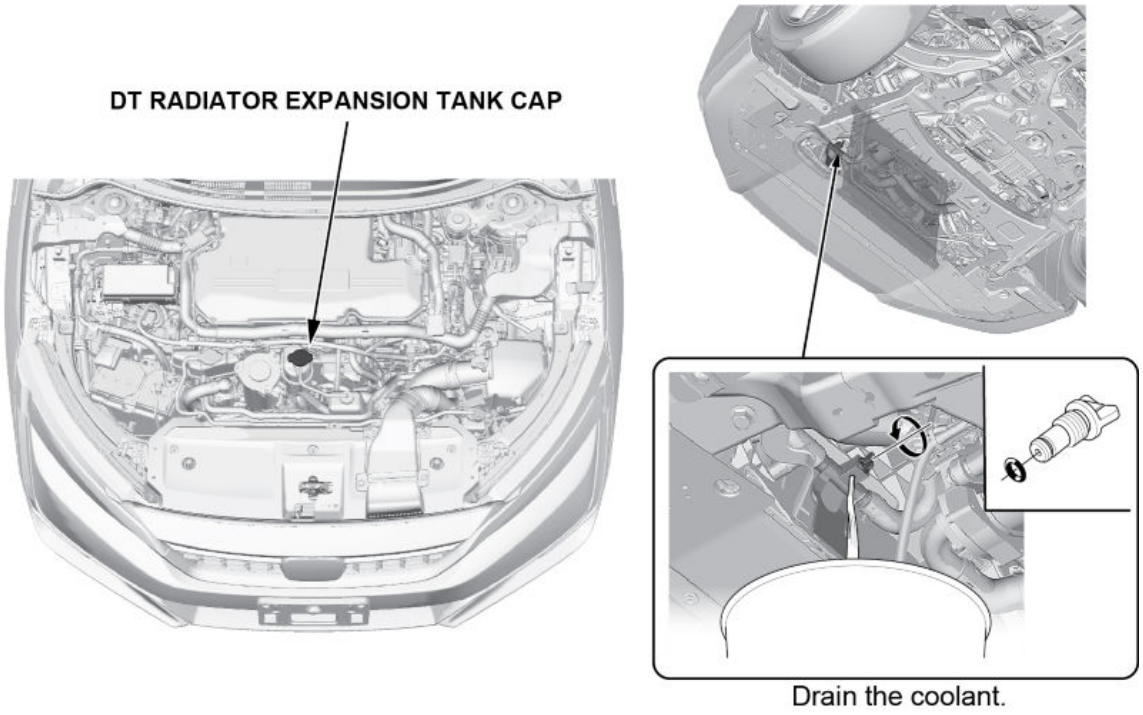
1. Vent the hydrogen to **4000 kPa** pressure to prepare for the new (donor) FC stack installation. Refer to the service information procedure, *Preparation Before Component Removal* and do the steps listed under Common Procedures and Procedure A.
2. Once the venting is complete, move the vehicle inside and onto a lift.
3. Remove both front wheels.
4. Remove the motor undercover and front floor undercover.



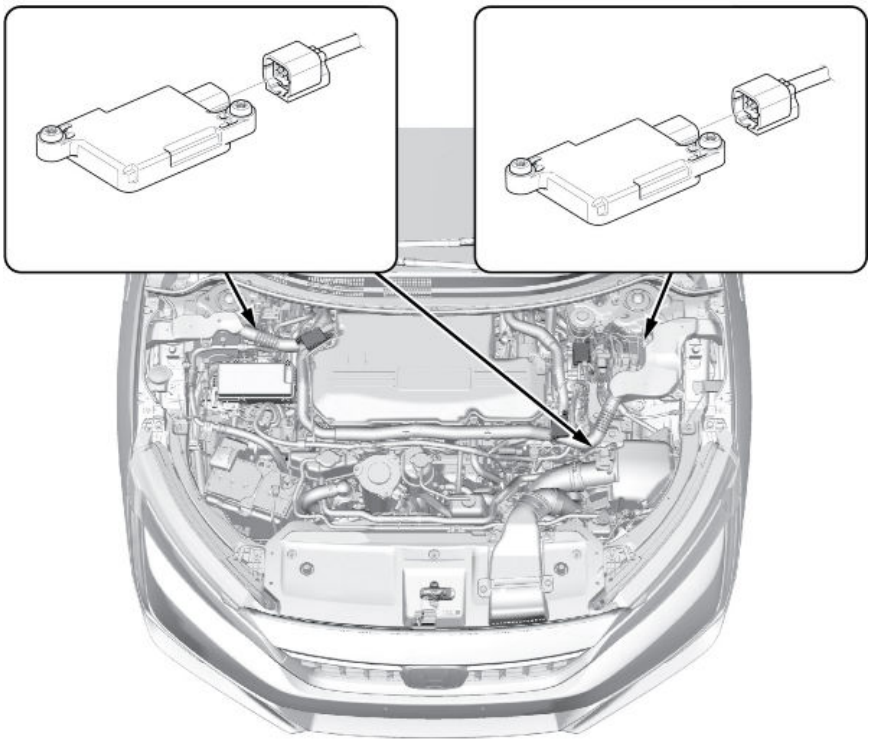
5. Remove the FC radiator expansion tank cap, and drain the FC insulating fluid.



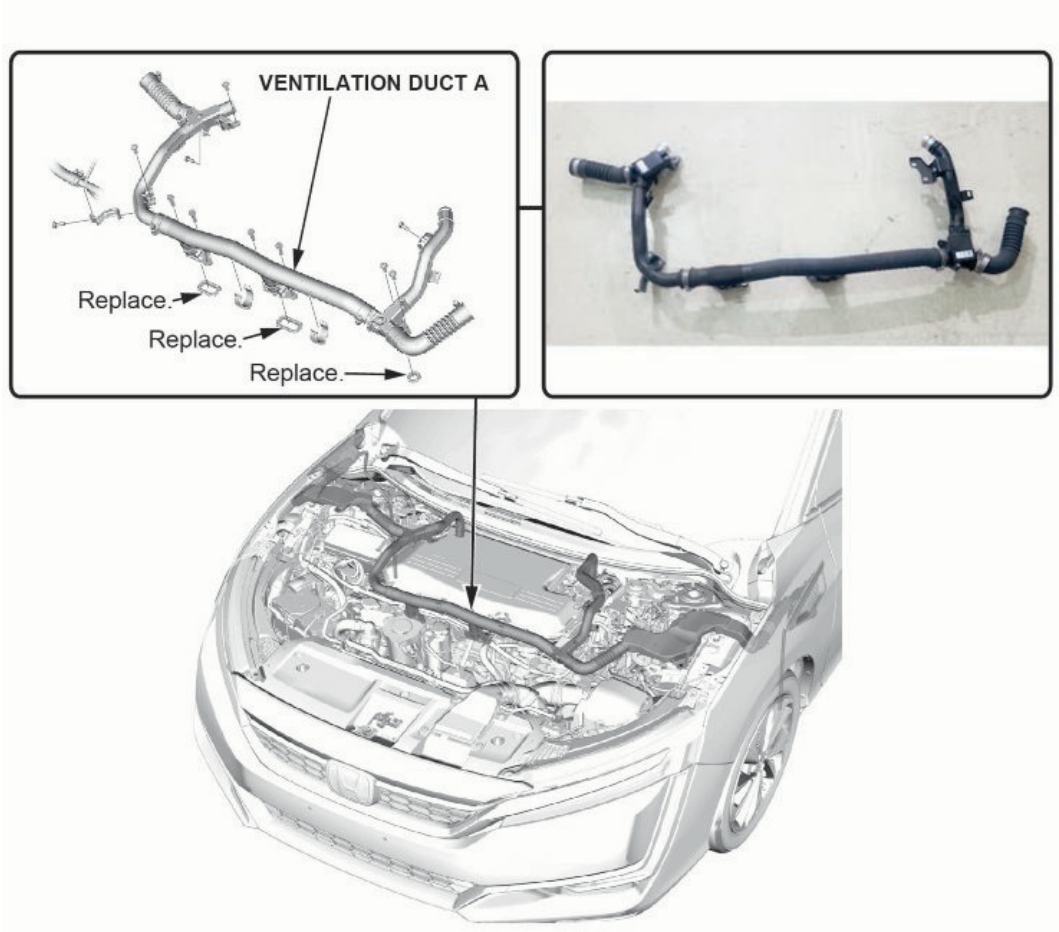
6. Remove the DT radiator expansion tank cap, and drain the DT coolant.



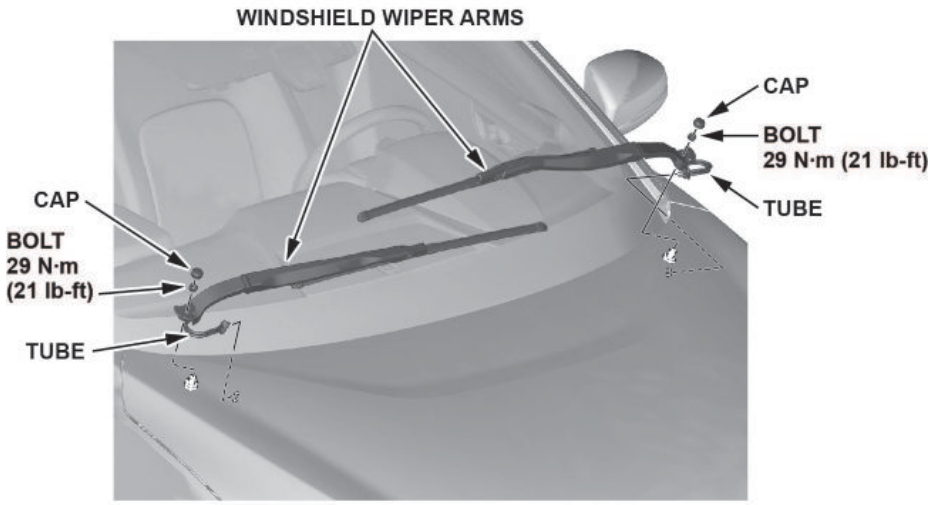
7. Disconnect both hydrogen sensor connectors. **Do not remove the sensor** from ventilation duct A.



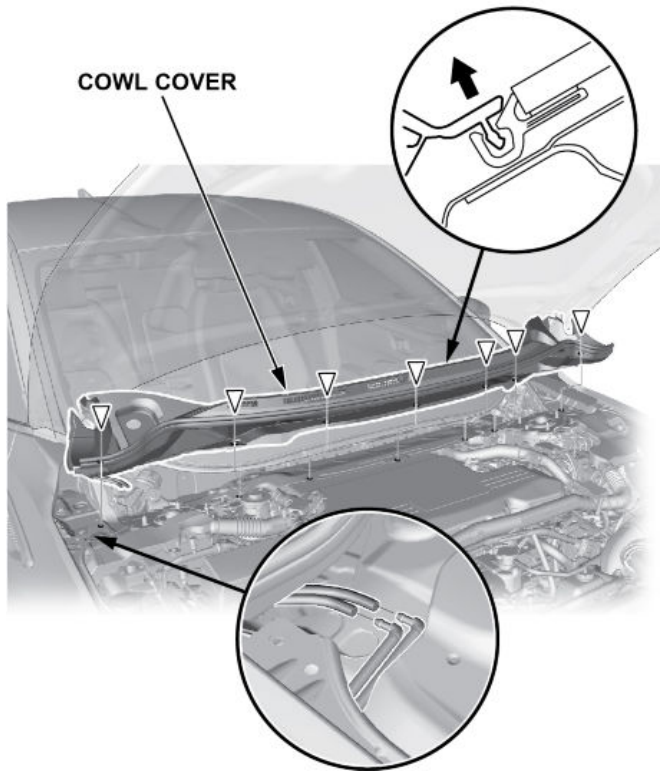
8. Remove FC ventilation duct A as an assembly as shown.



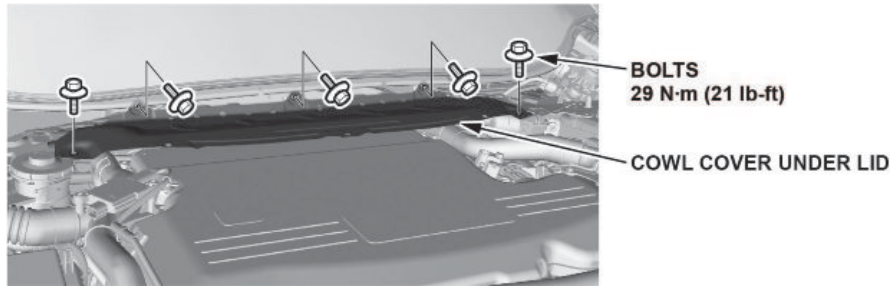
9. Remove the windshield wiper arms.



10. Remove the cowl cover.



11. Remove the cowl cover under lid.

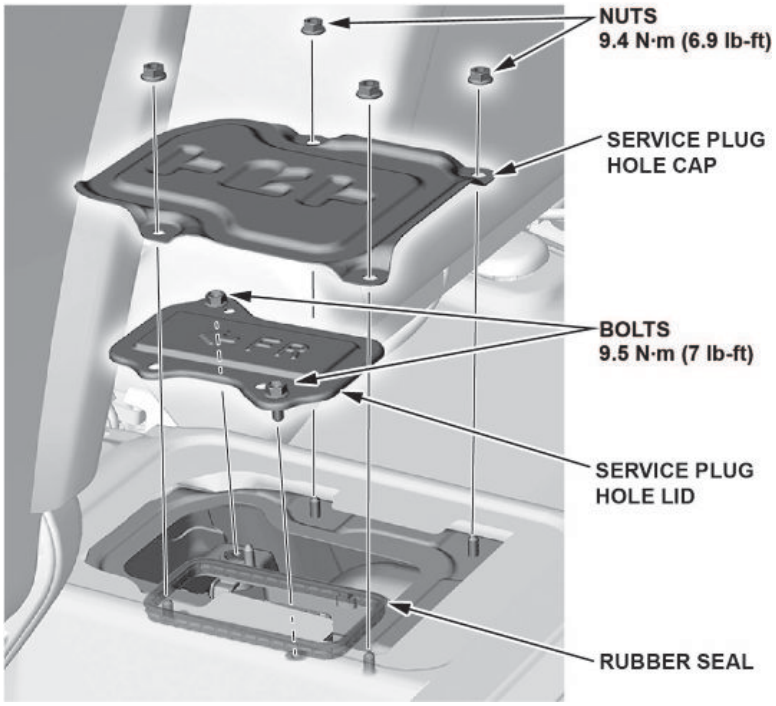


12. Remove the service plug.

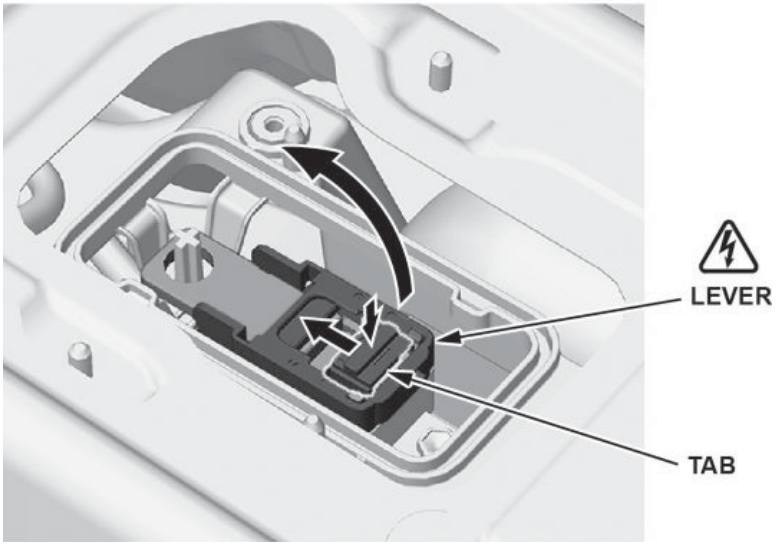
12.1. Pull back the carpet located under the back side of the center console, then remove the service plug hole cap and service plug hole lid.

NOTE

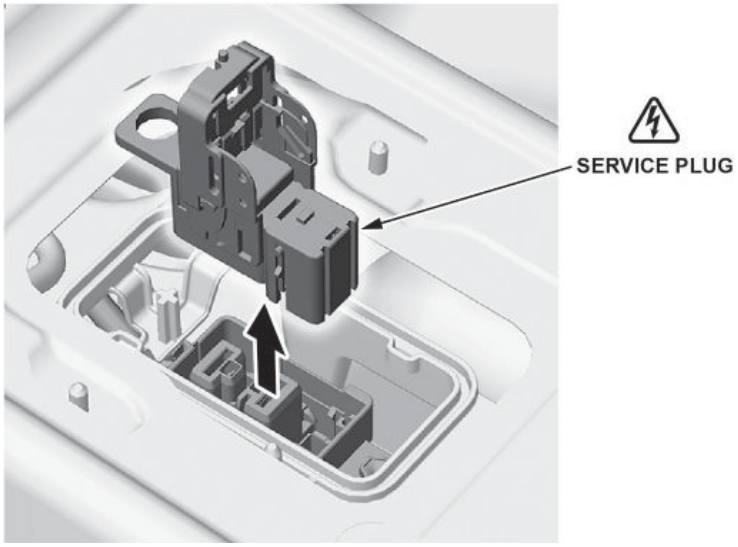
Reuse the service plug hole lid if the seal is not deformed or damaged.



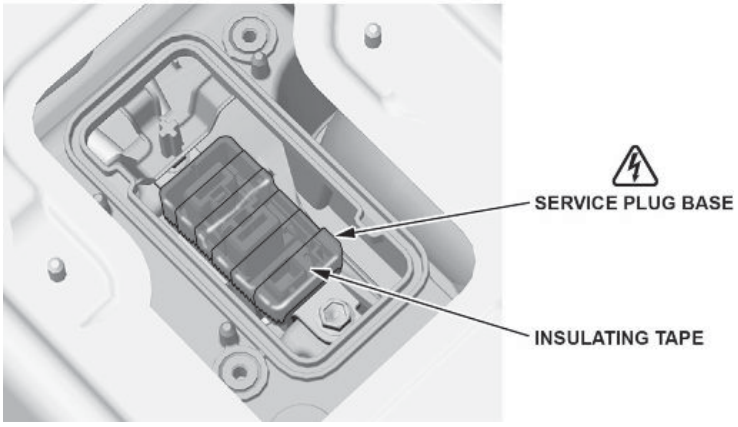
12.2. Raise the lever while pushing and sliding the tab in the direction of the arrow.



12.3. Remove the service plug.



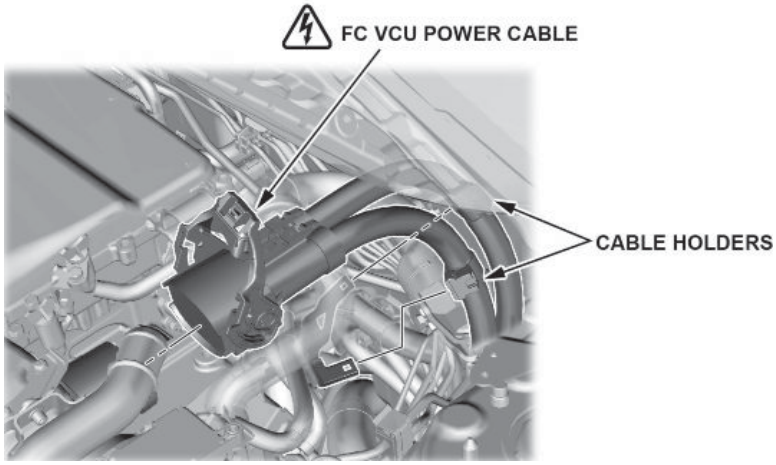
12.4. Wrap the service plug base with insulating tape.



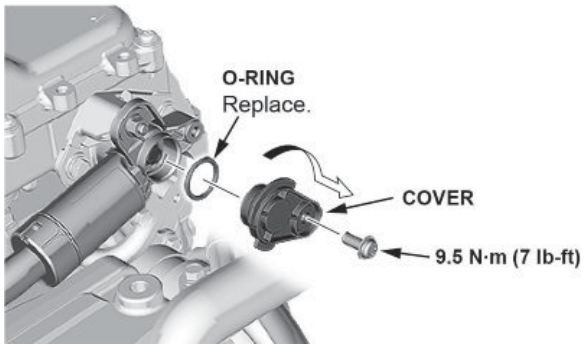
13. Disconnect the FC VCU power cable.

NOTE

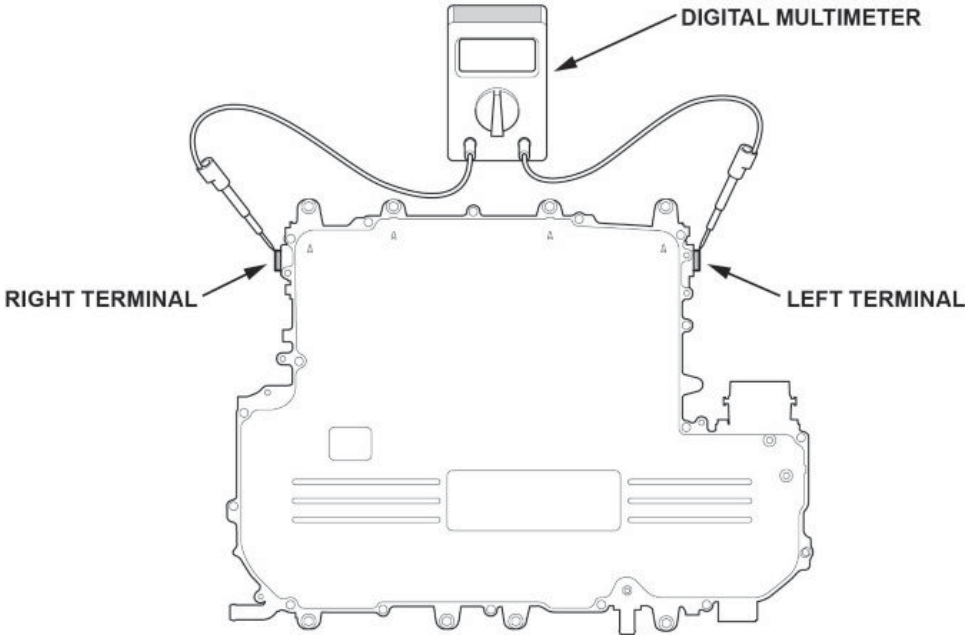
Wrap insulating tape or a clean shop towel around the connector to prevent oil, water, or dirt from entering.



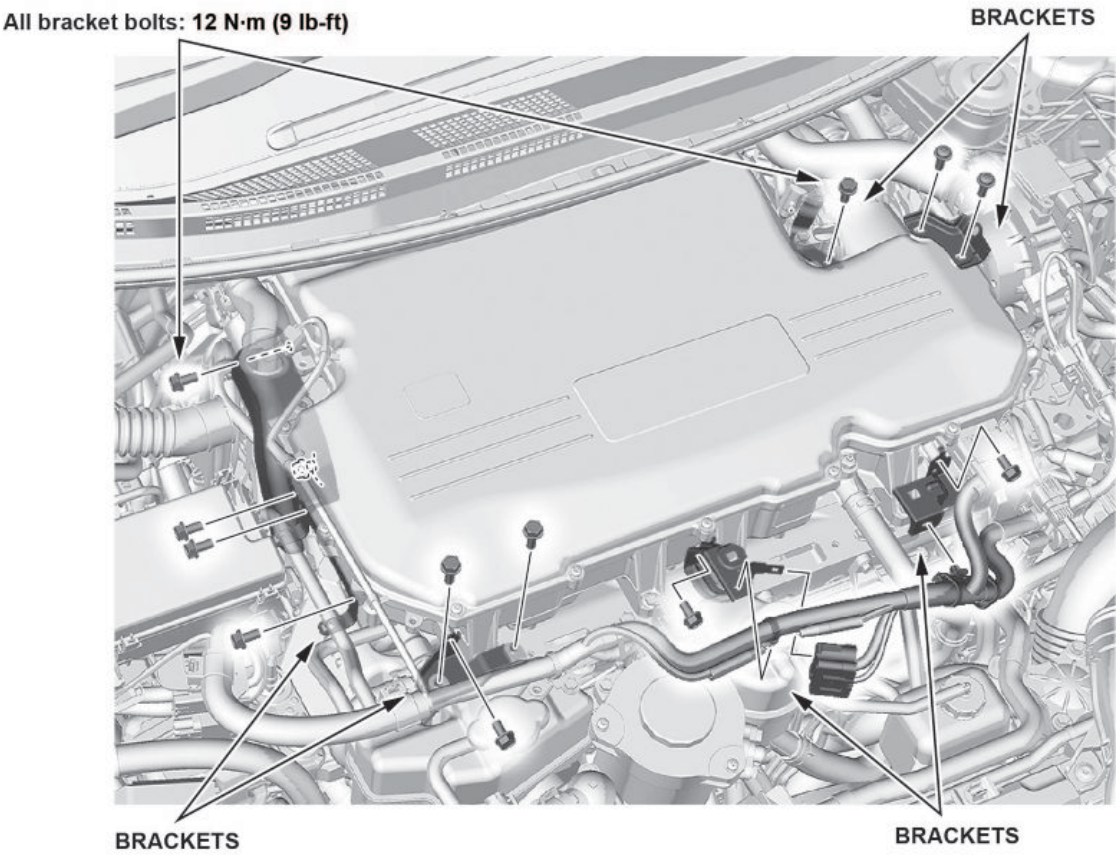
14. Remove the left and right FC stack power cable cover.

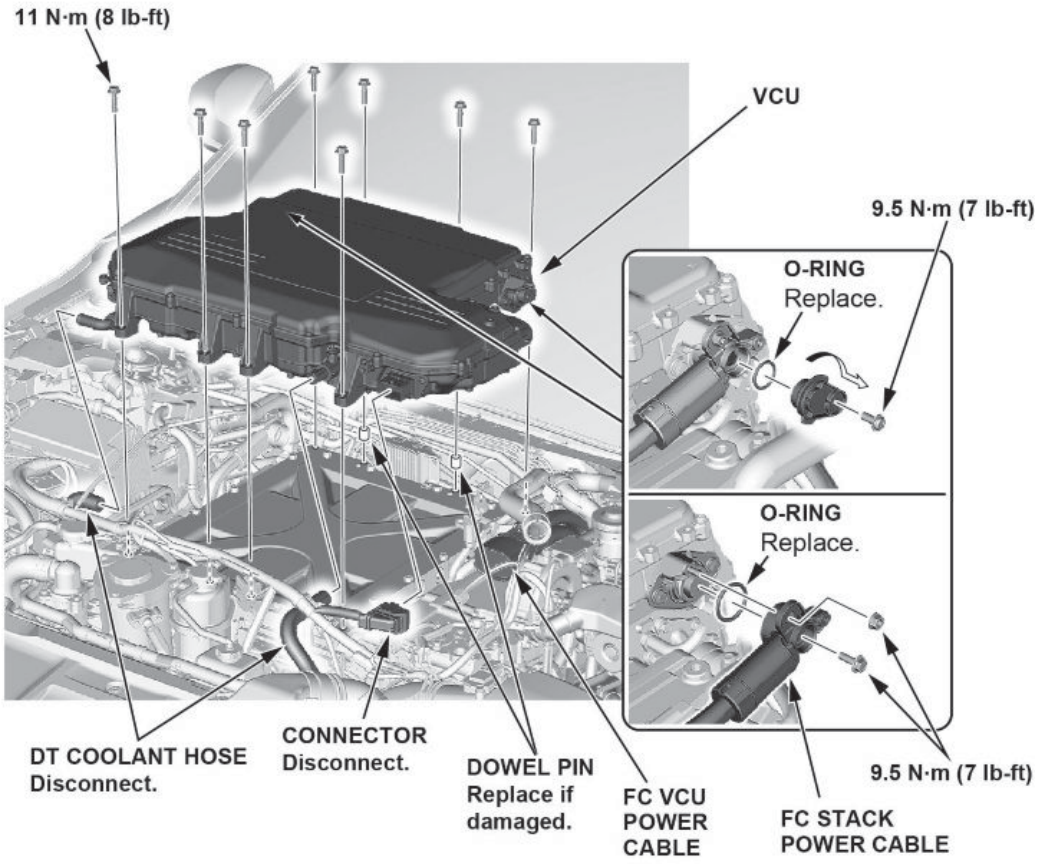


15. Measure the voltage of the FC VCU by connecting a multimeter to both the right and left terminal. Make sure to wait for the voltage to be 30-volts or less before continuing.



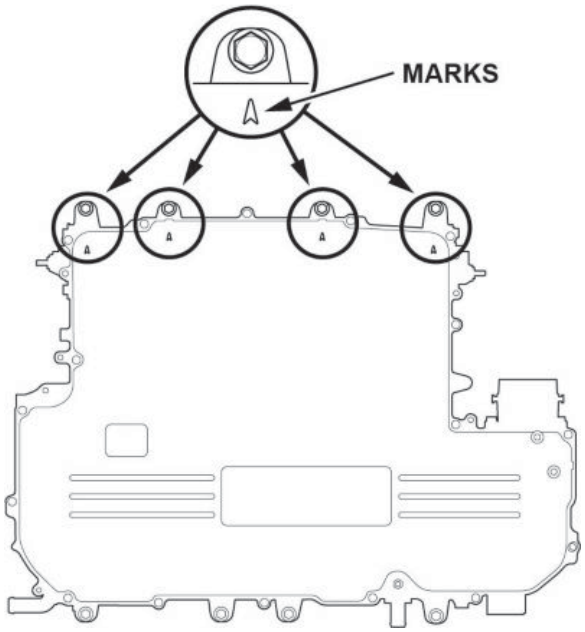
16. Remove the VCU. Refer to the service information for additional information.



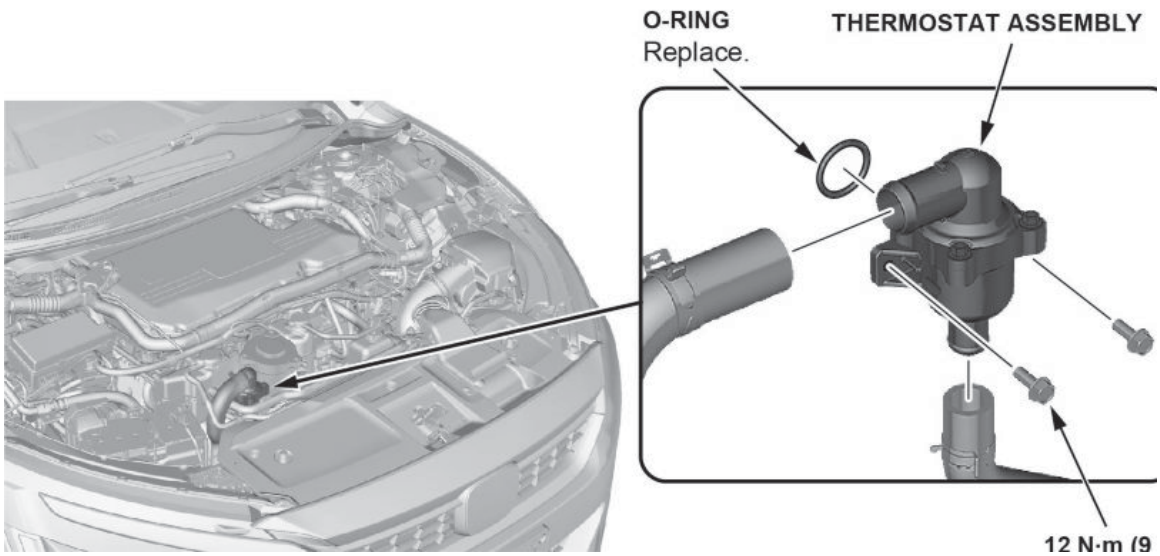


NOTE

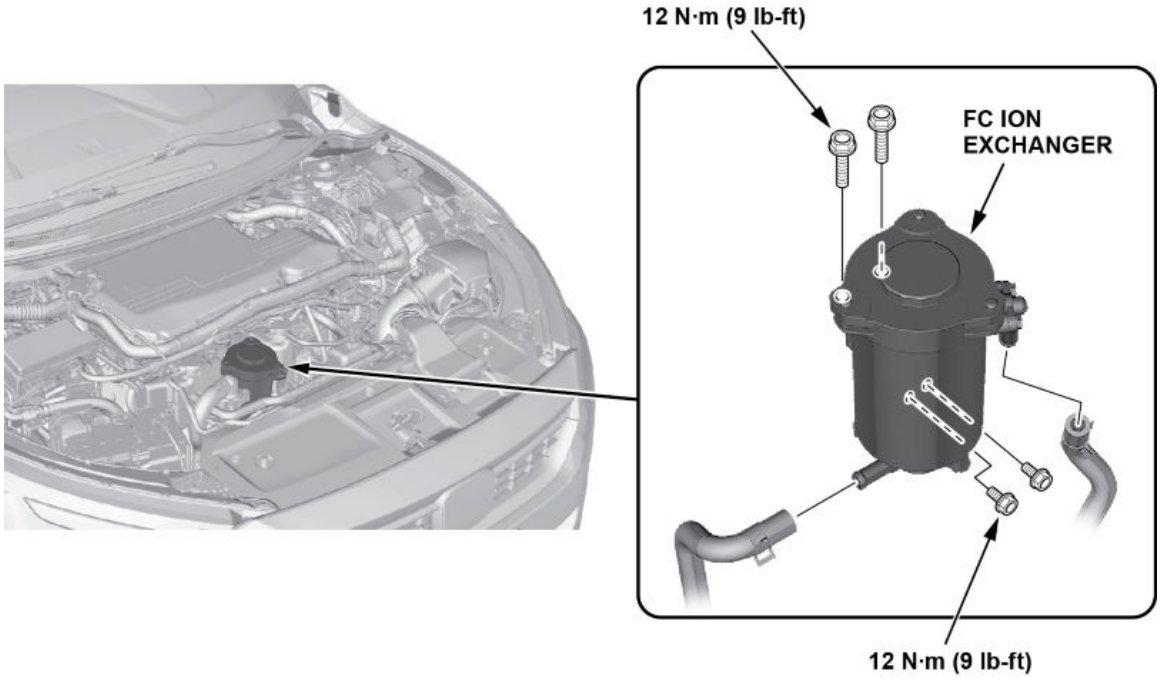
The marks located on the back of the FC VCU show which bolts to remove.



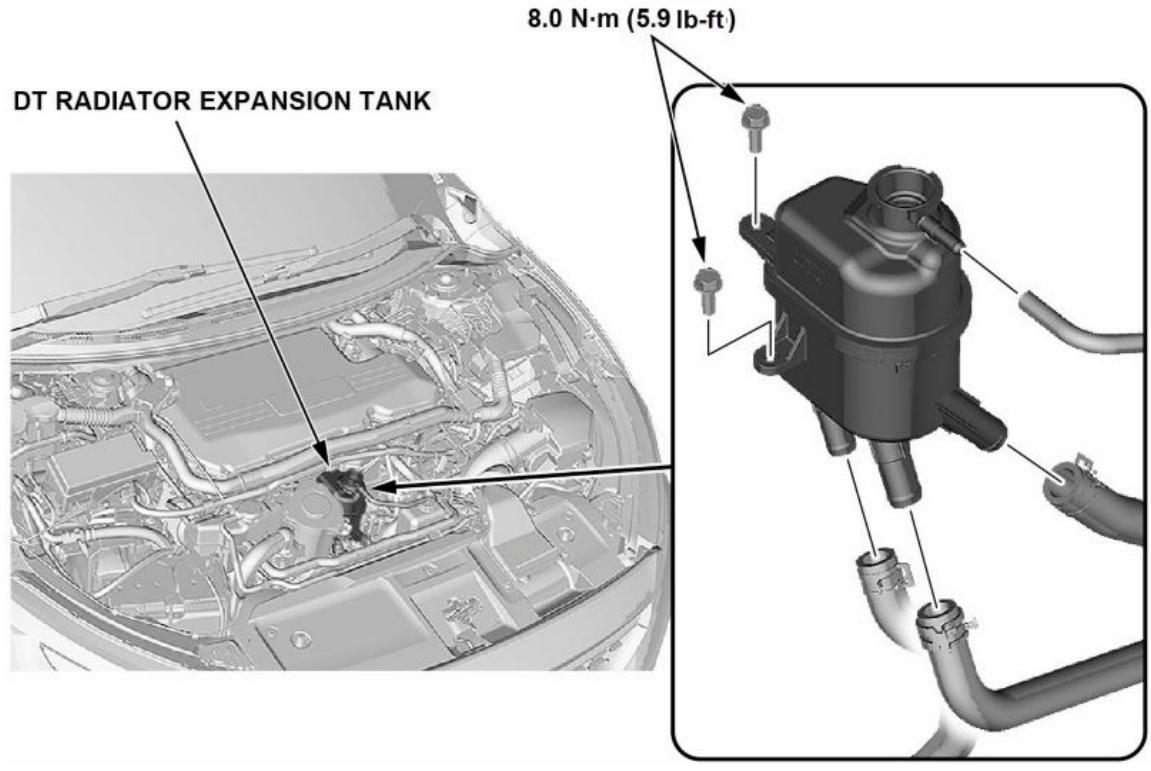
17. Remove the thermostat.



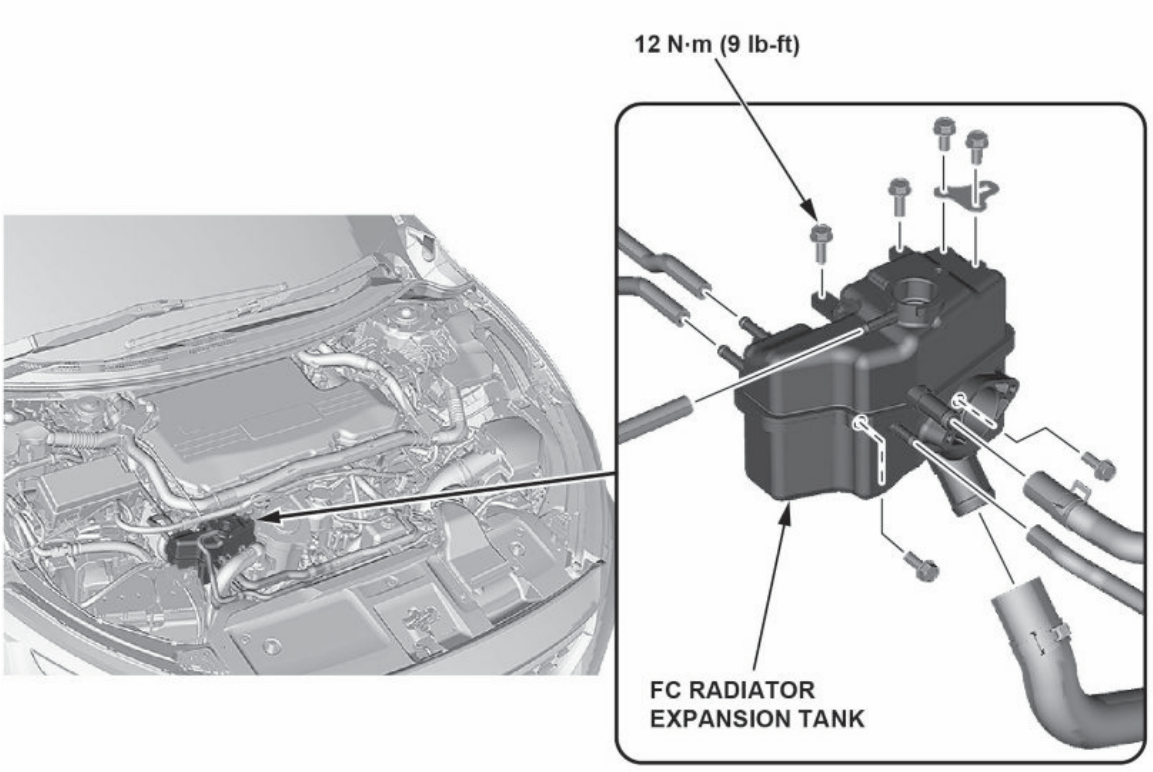
18. Remove the FC ion exchanger.



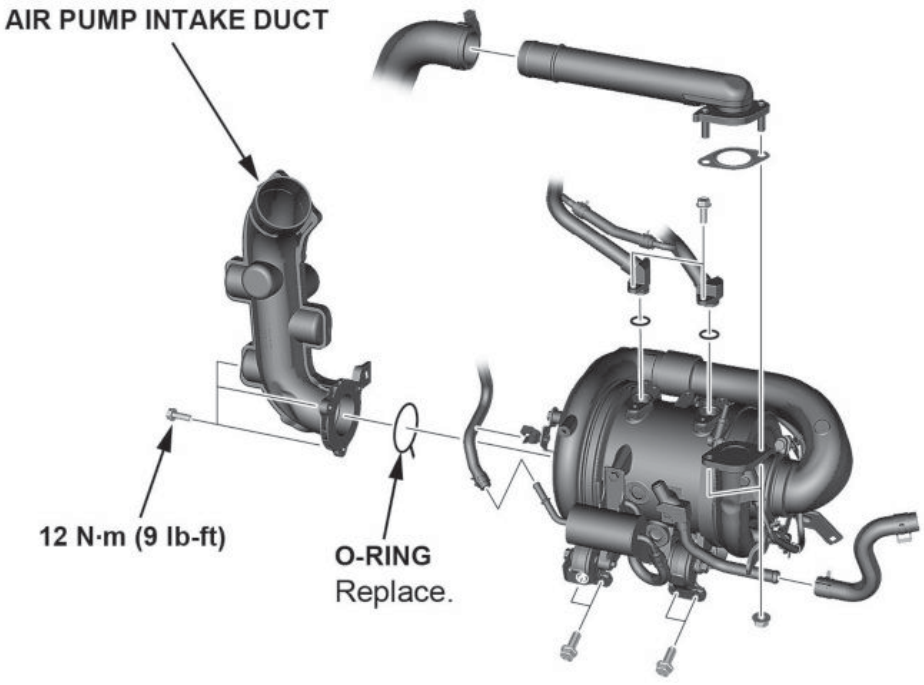
19. Remove the DT radiator expansion tank.



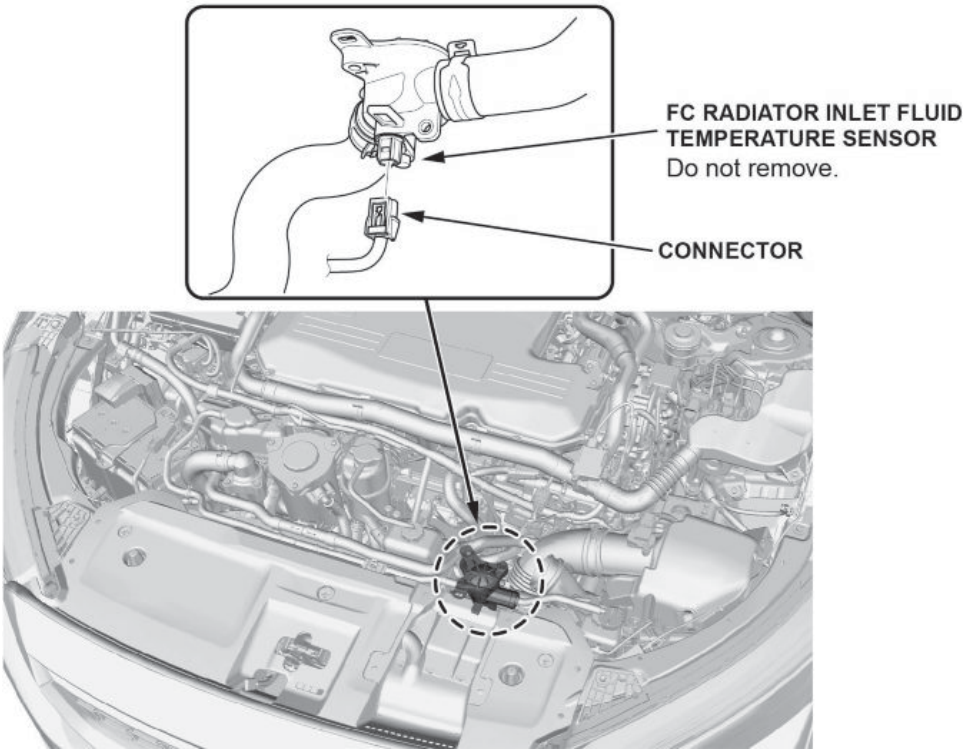
20. Remove the FC radiator expansion tank.



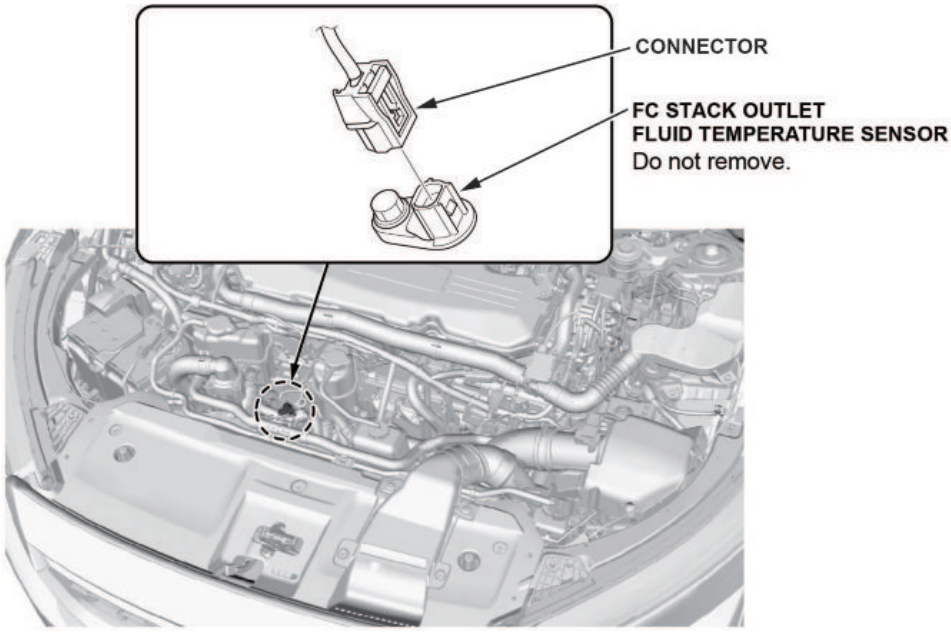
21. Remove the air pump intake duct (air cleaner duct).



22. Disconnect the FC radiator inlet fluid temperature sensor connector. **Do not remove the sensor**.



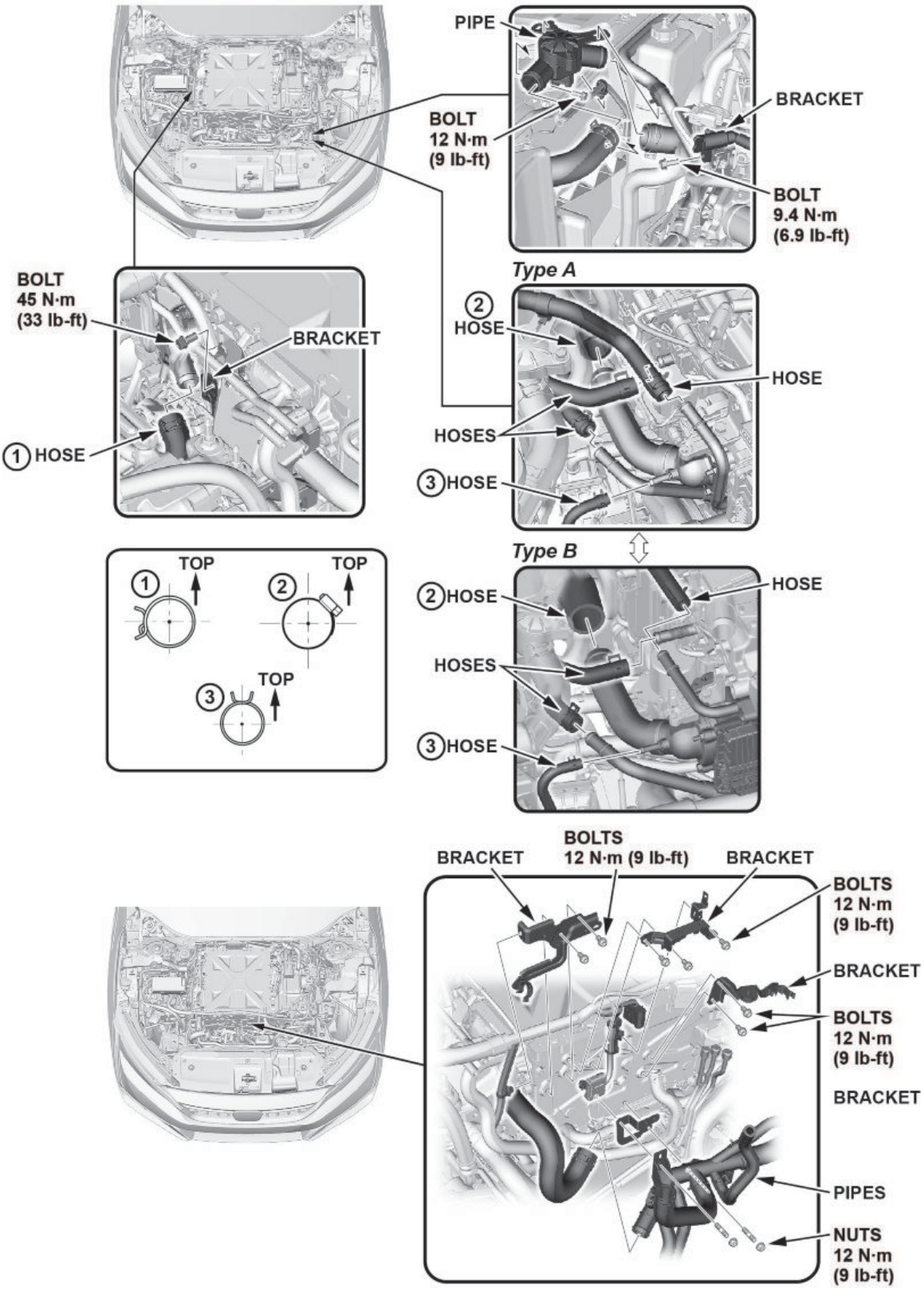
23. Disconnect the FC stack outlet fluid temperature sensor connector. **Do not remove the sensor**.



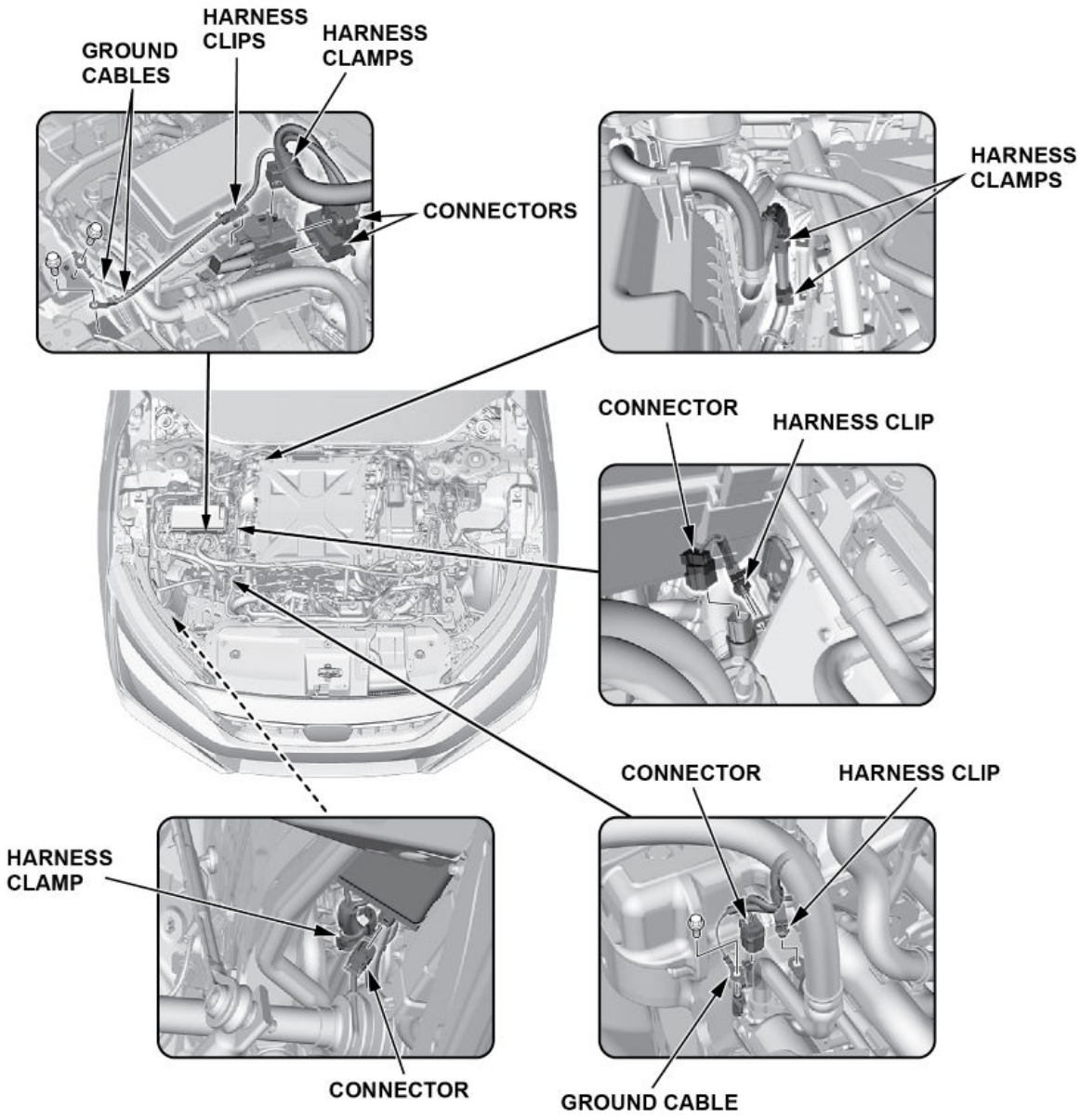
24. Remove the parts surrounding the FC stack.

NOTE

This procedure will not require the removal of the FC ECU. **Do not** remove the FC ECU from the FC stack.



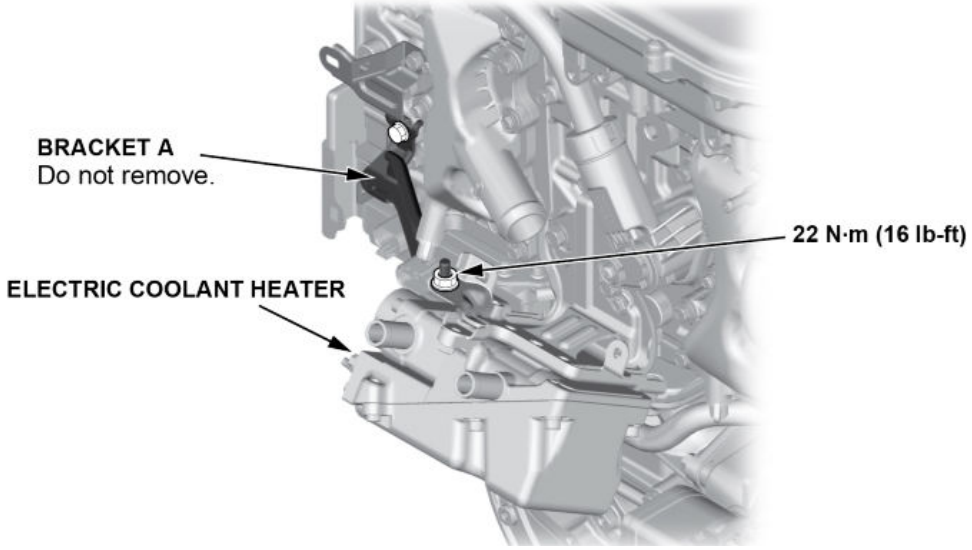
25. Disconnect the FC wire harness.



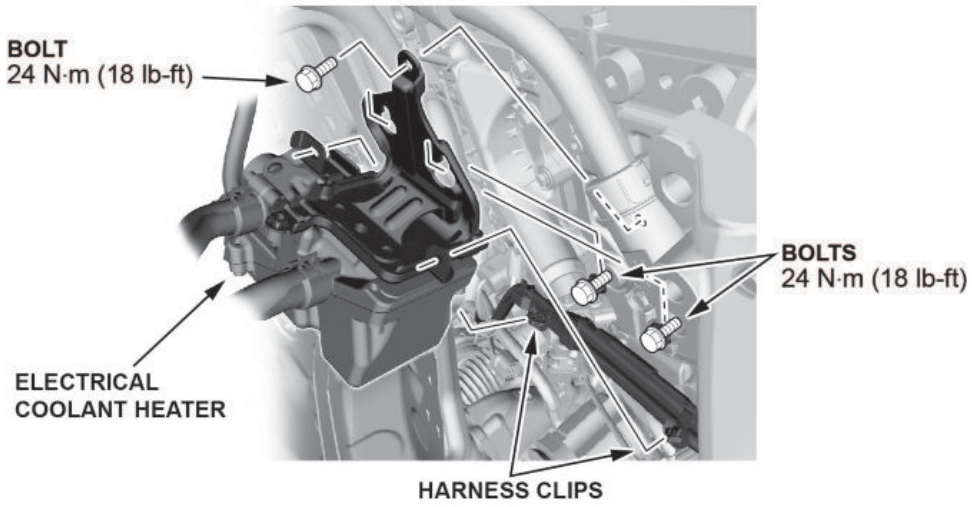
26. Remove the electric coolant heater from the FC stack, but do not remove bracket A. Once the heater is removed, place it out of the way on the frame.

NOTE

You do not need to remove the hoses from the heater, only the electrical connection.



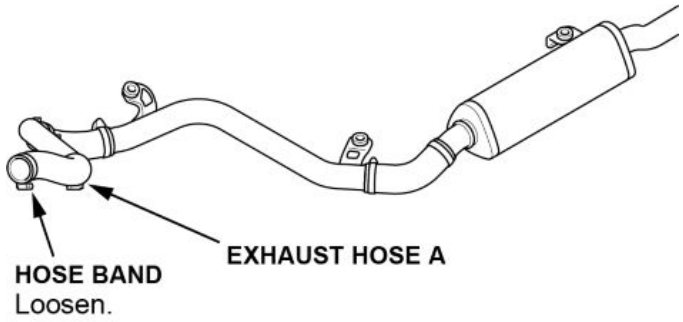
26.1. Remove the harness clips.



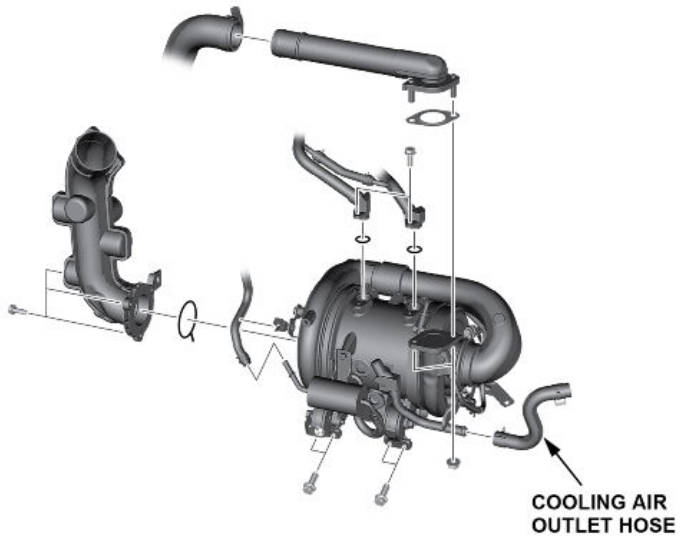
26.2. Remove the bolts.

26.3. Disconnect the harness connector from the heater.

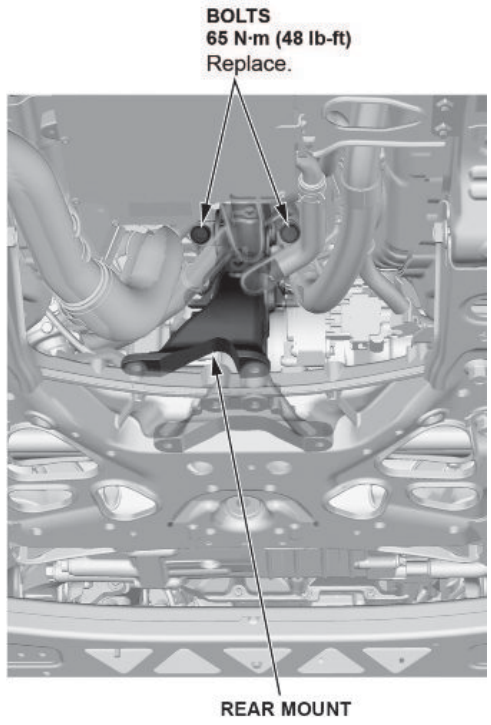
27. Loosen and disconnect, but do not remove exhaust hose A from the FC stack outlet.



28. Disconnect the cooling air outlet hose from the air pump unit.



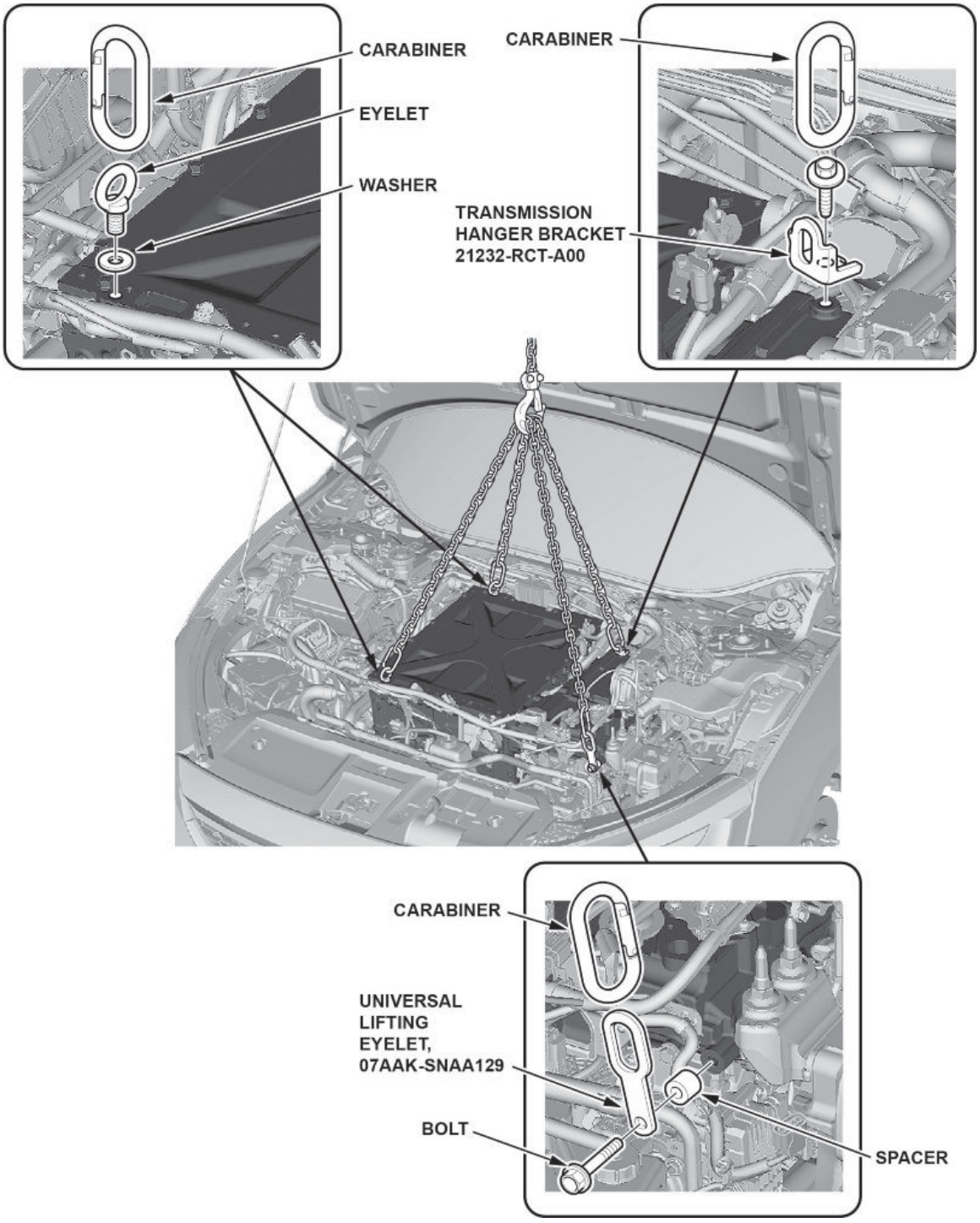
29. Remove the rear mount mounting bolts from the FC stack.



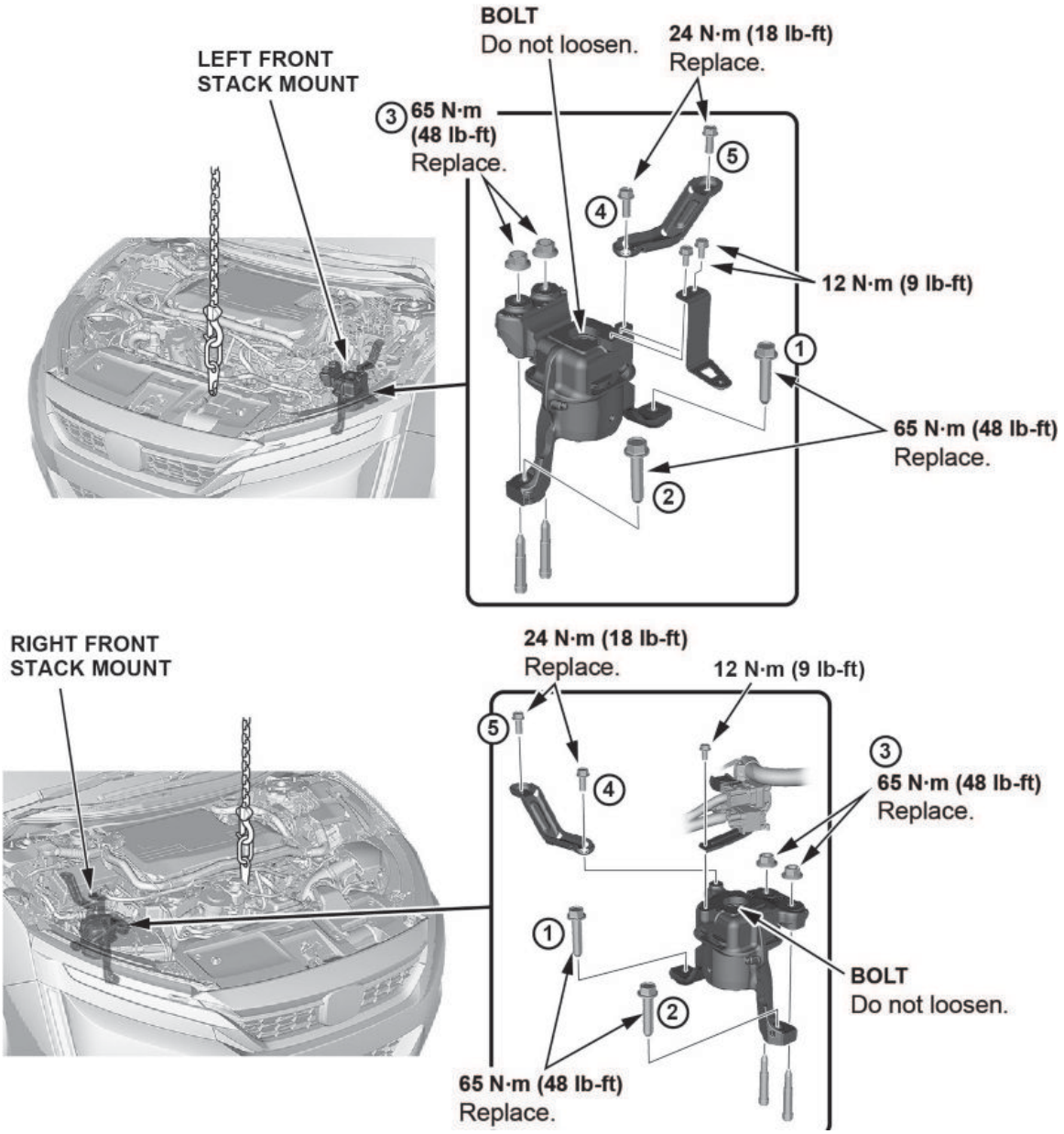
30. Install a chain hoist to the FC stack.

NOTE

Use a commercially available carabiner, eyelet, washer, spacer, and bolt.



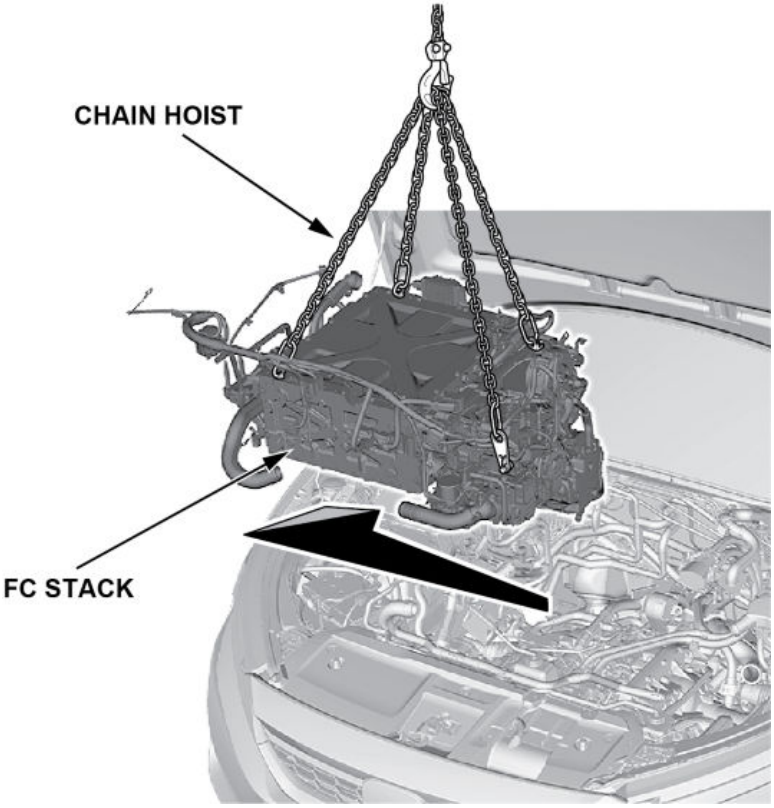
31. Remove the left front and right front stack mounts.



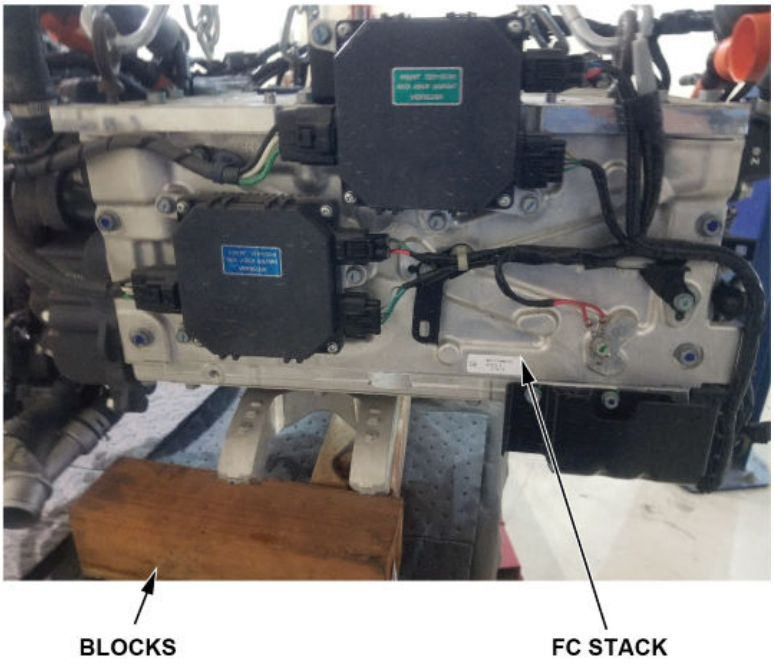
32. Remove the FC stack.

NOTE

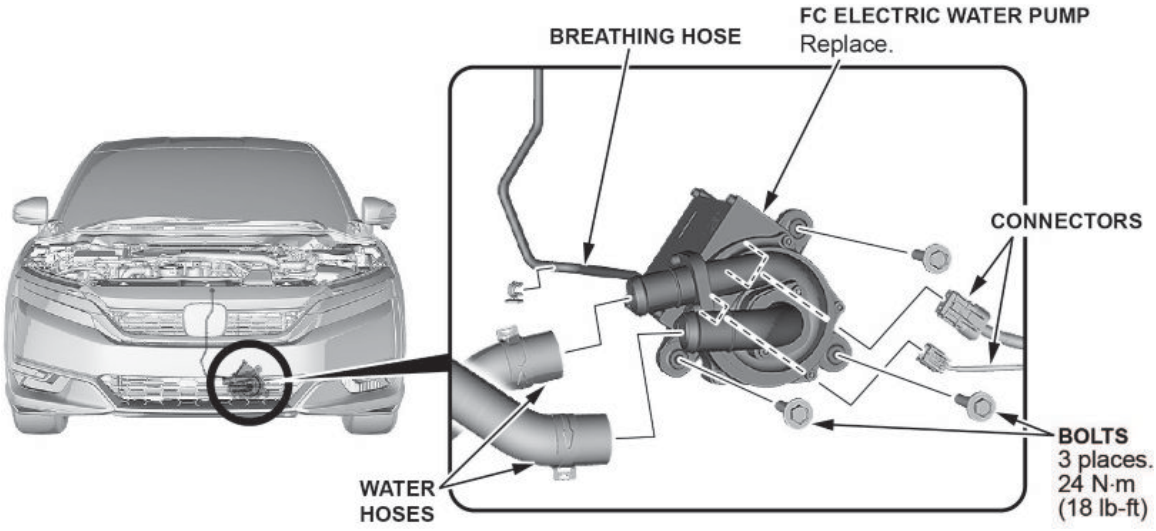
Mark the FC stack with **NG** once it is removed.



33. Carefully set the FC stack on blocks to prevent damage to the components underneath.



34. Disconnect both water hoses from the FC electric water pump.



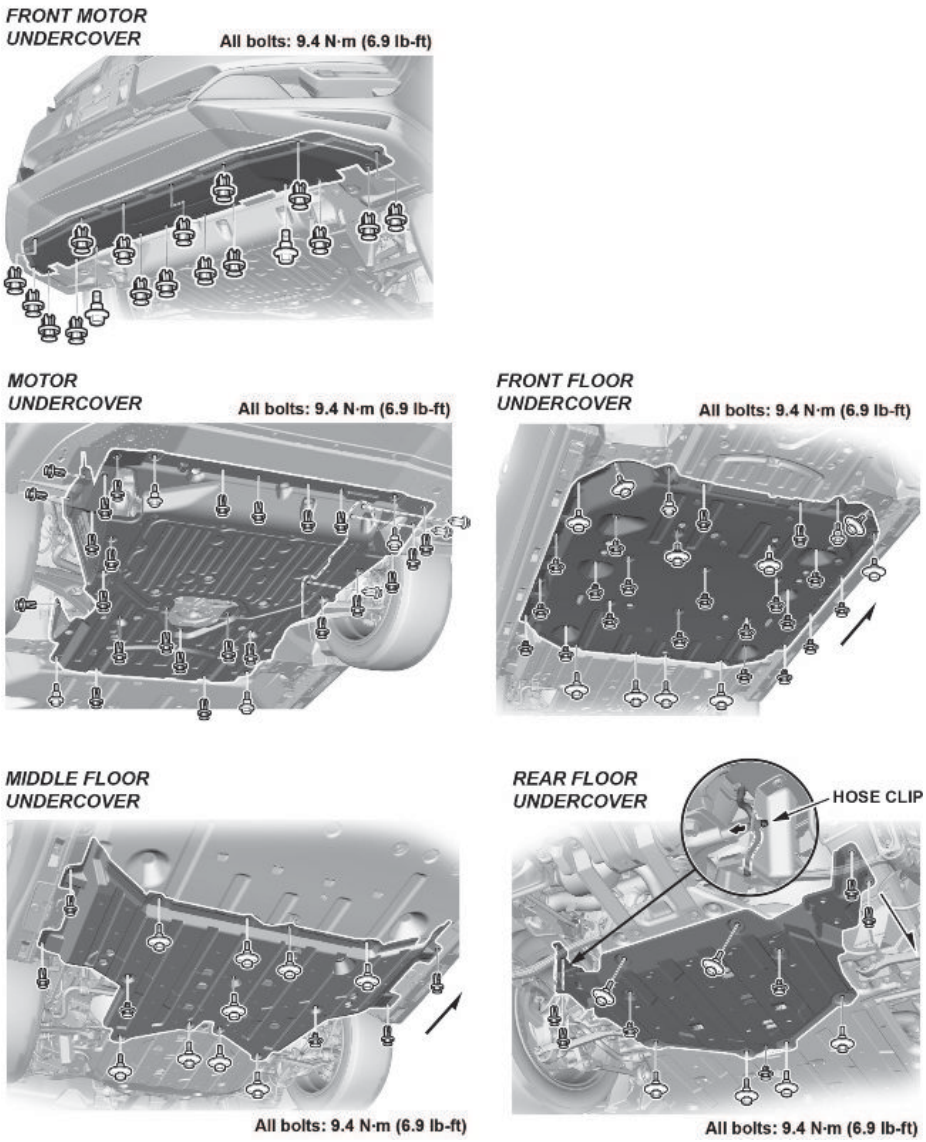
35. Remove the three FC water pump mounting bolts.
36. Disconnect the breathing hose.
37. Move the FC electric water pump out of the way and disconnect two connectors located behind it.
38. Install a new FC electric water pump in the reverse order of removal.
39. Go to Removing the FC Stack from the Donor Vehicle and Installing It to the Repair Vehicle on the next page.

Removing the FC Stack from the Donor Vehicle and Installing It to the Repair Vehicle

Before doing this repair, make sure the donor vehicle is operating correctly, and do an All DTC Check with the i-HDS to make sure there are no DTCs set that would affect the FC stack operation. If there are any FC stack-related DTCs set, a different donor vehicle will have to be used. Contact Tech Line for more information.

Important: Write down the VIN and FC stack serial number of the donor vehicle on your RO. If this information is missing on the warranty claim, the claim will be debited.

1. Vent the hydrogen to **4000 kPa** pressure to prepare for the new (donor) FC stack installation. Refer to the service information procedure, *Preparation Before Component Removal* and do the steps listed under Common Procedures and Procedure A.
2. Once the venting and purging is complete, move the vehicle inside and onto a lift.
3. Remove all four wheels.
4. Remove the front motor, motor, front floor, middle floor, and rear floor undercovers.

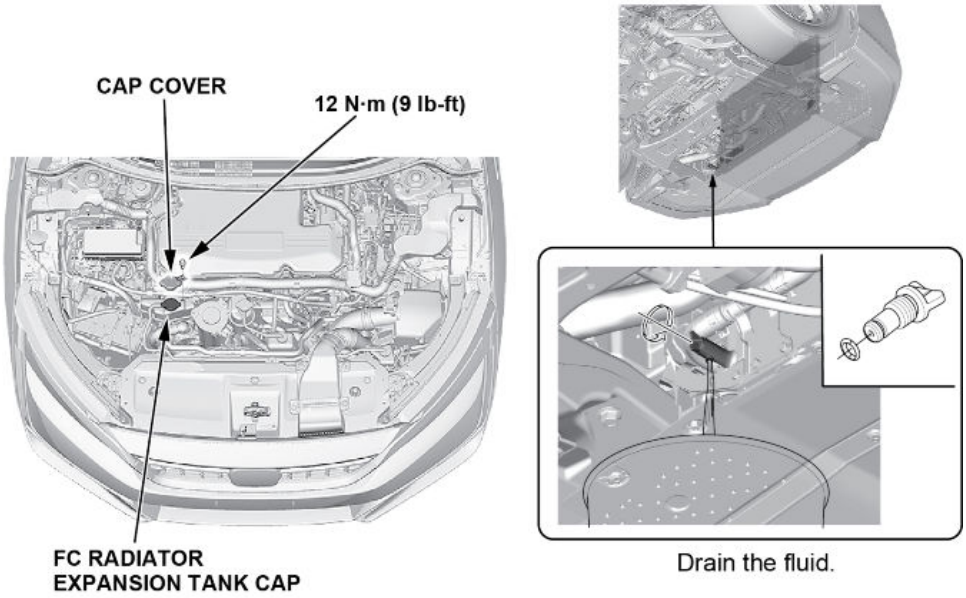


5. Make sure the parking brake is released, then disconnect the 12-volt battery.
6. Lower both the main and sub hydrogen tanks just enough to remove the valves.

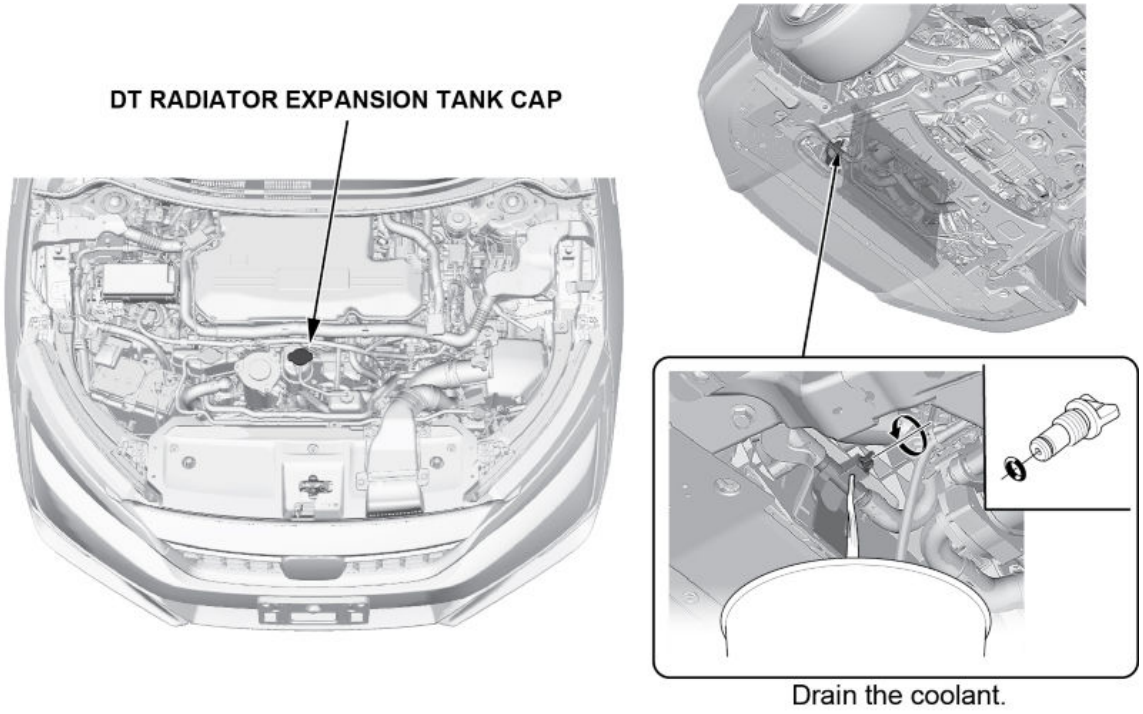
NOTE

Refer to the job aid *Hydrogen Tank(s) Replacement and Disposal*.

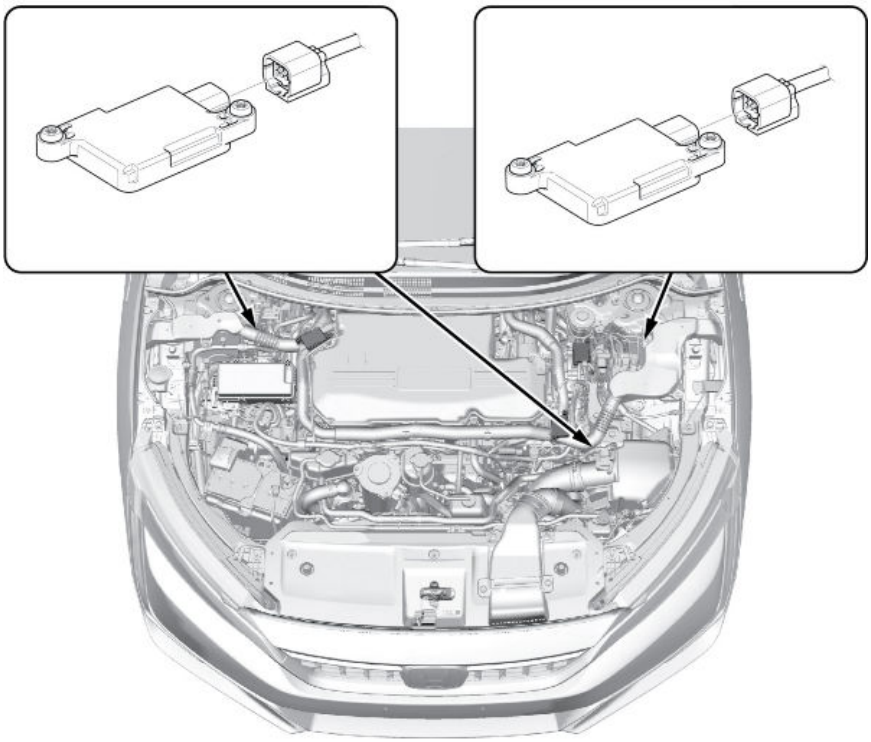
7. Mount both main and sub hydrogen tanks; you do not need to fully install it.
8. Remove the FC radiator expansion tank cap, and drain the FC insulating fluid.



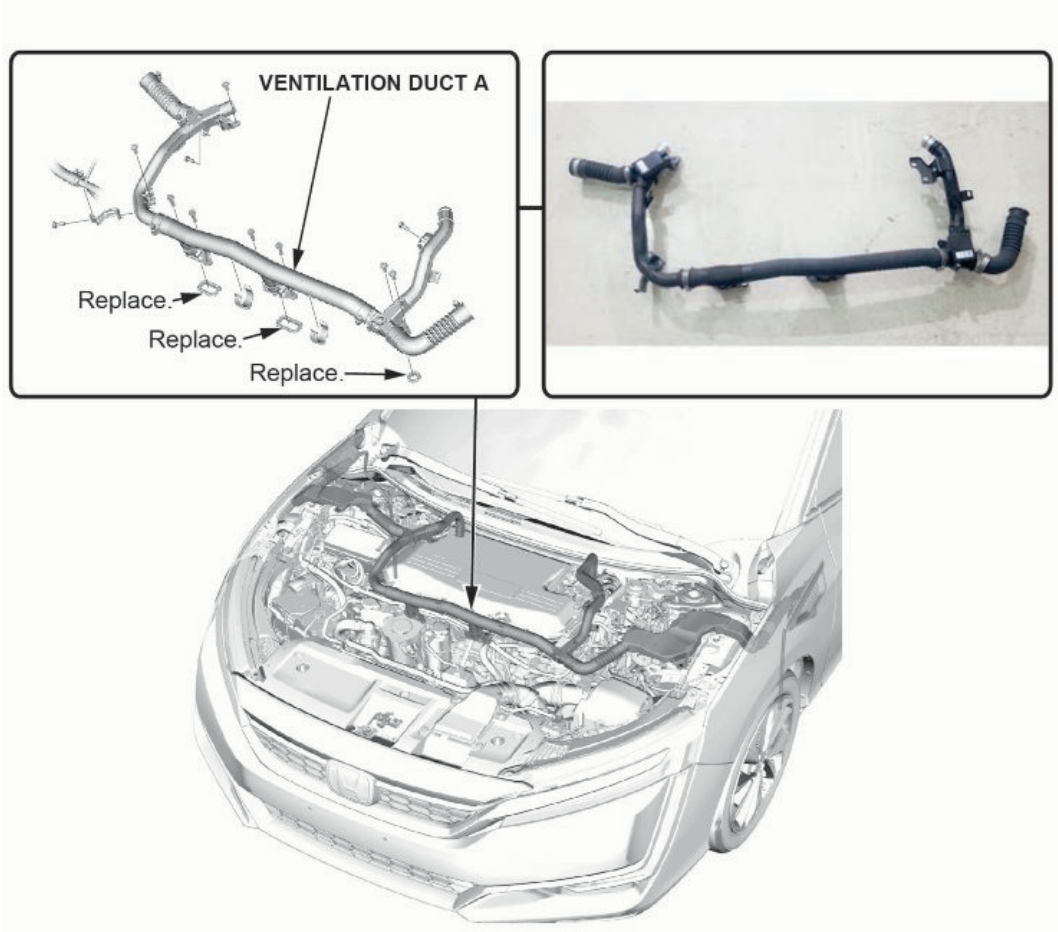
9. Remove the DT radiator expansion tank cap, and drain the DT coolant.



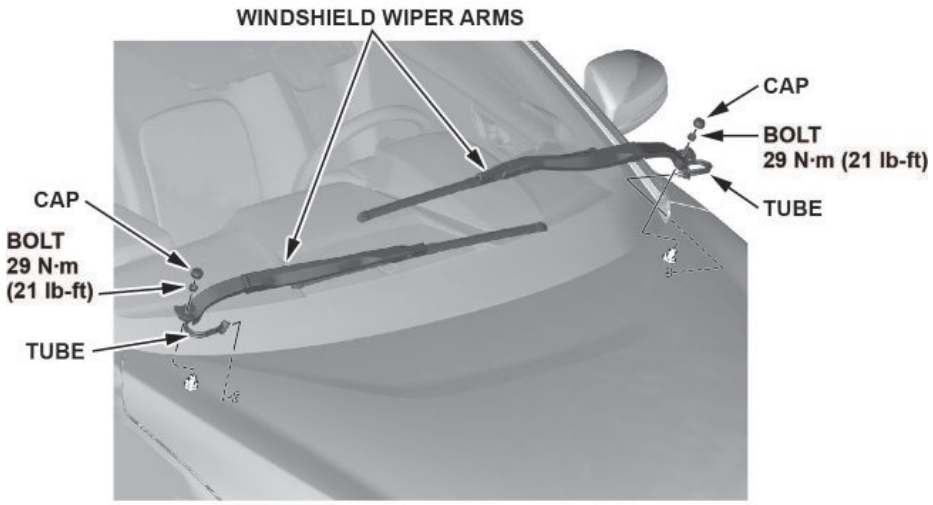
10. Disconnect both hydrogen sensor connectors. **Do not remove the sensor** from ventilation duct A.



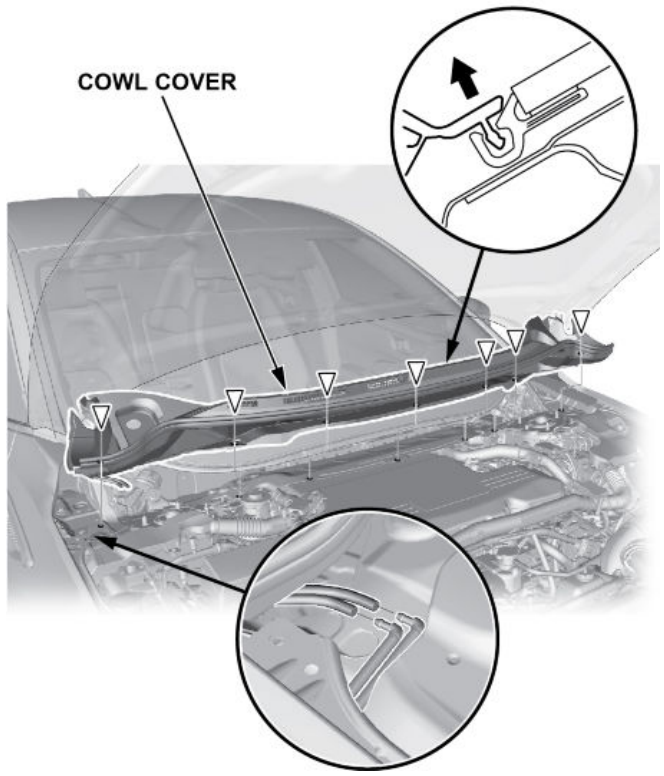
11. Remove FC ventilation duct A as an assembly as shown.



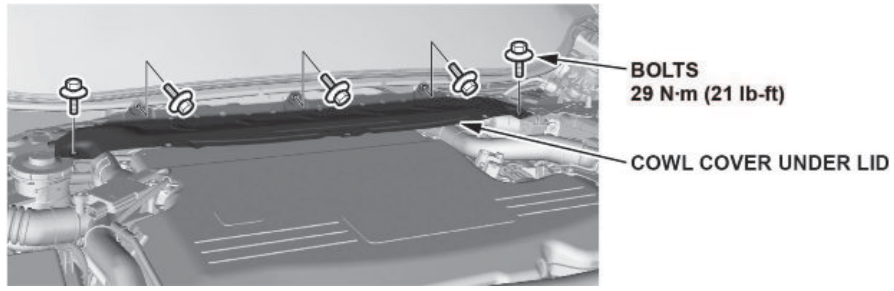
12. Remove the windshield wiper arms.



13. Remove the cowl cover.



14. Remove the cowl cover under lid.

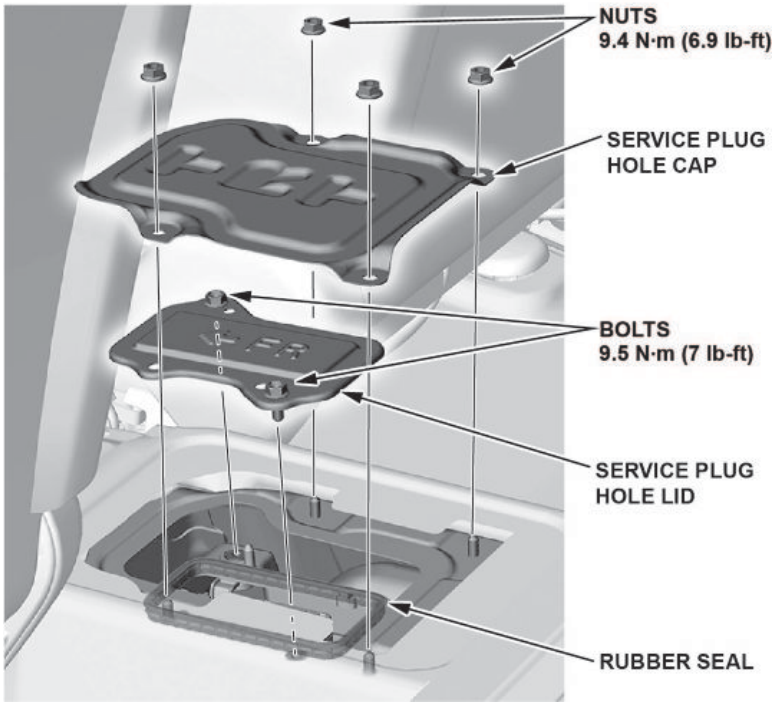


15. Remove the service plug.

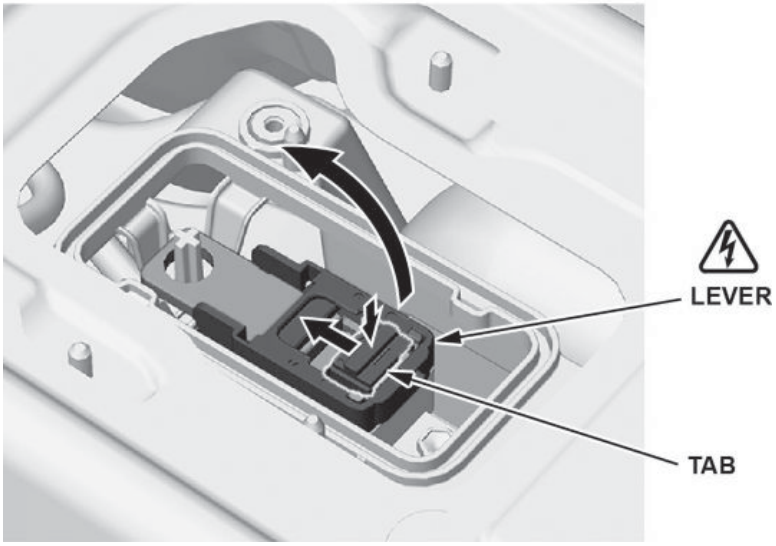
15.1. Pull back the carpet located under the back side of the center console, then remove the service plug hole cap and service plug hole lid.

NOTE

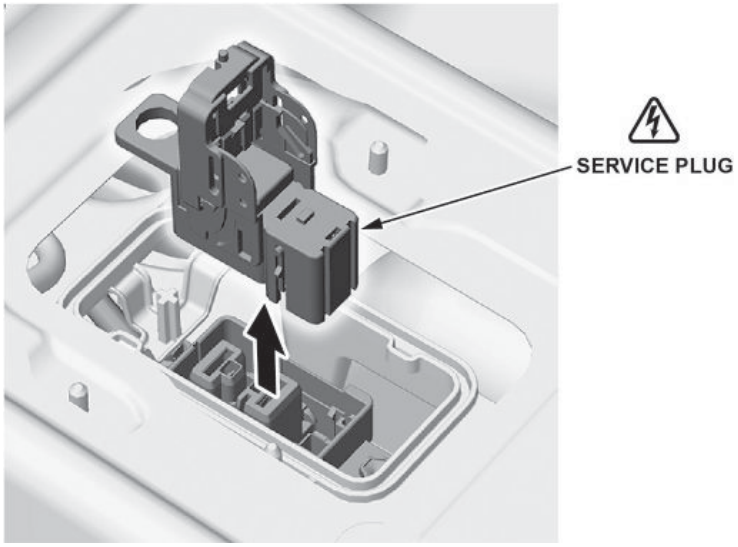
Reuse the service plug hole lid if the seal is not deformed or damaged.



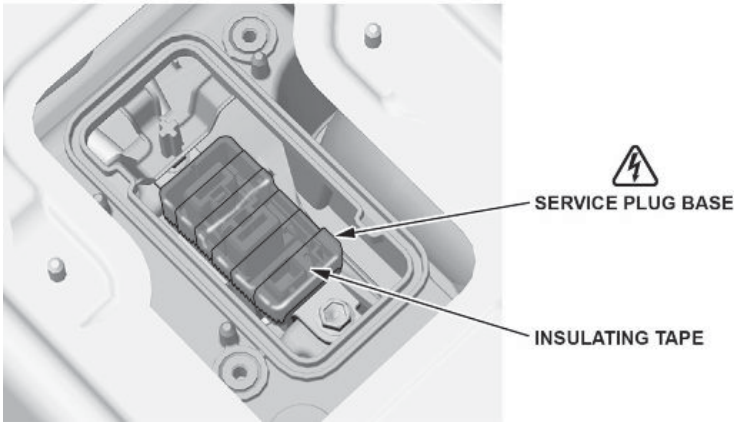
15.2. Raise the lever while pushing and sliding the tab in the direction of the arrow.



15.3. Remove the service plug.



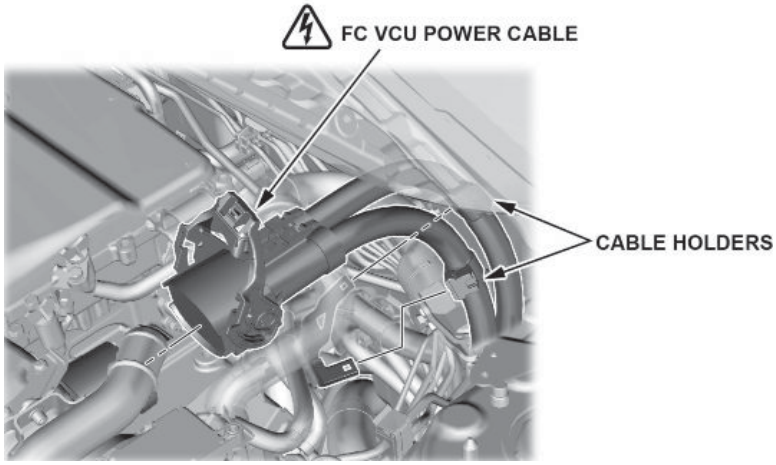
15.4. Wrap the service plug base with insulating tape.



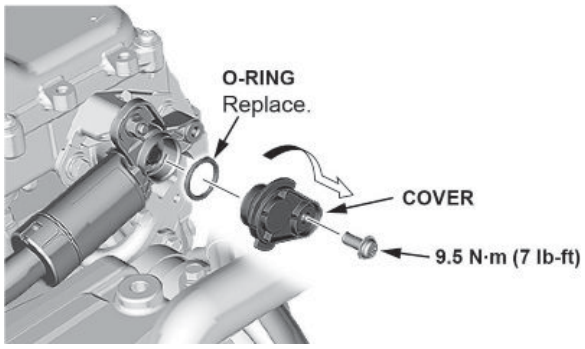
16. Disconnect the FC VCU power cable.

NOTE

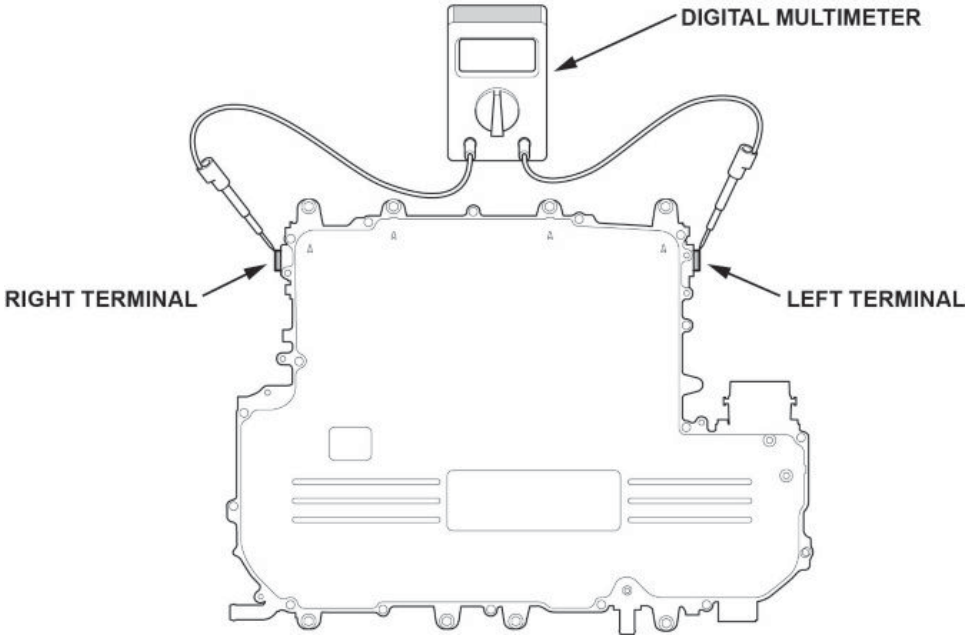
Wrap insulating tape or a clean shop towel around the connector to prevent oil, water, or dirt from entering.



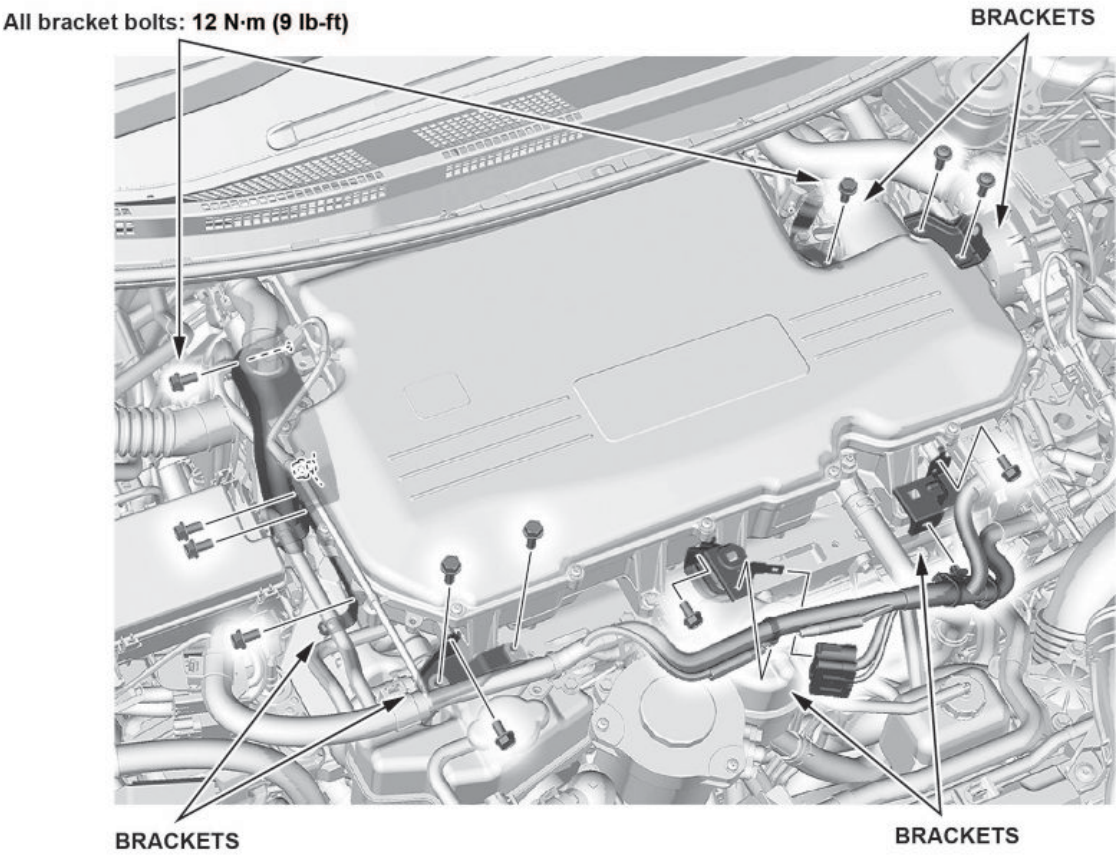
17. Remove the left and right FC stack power cable cover.

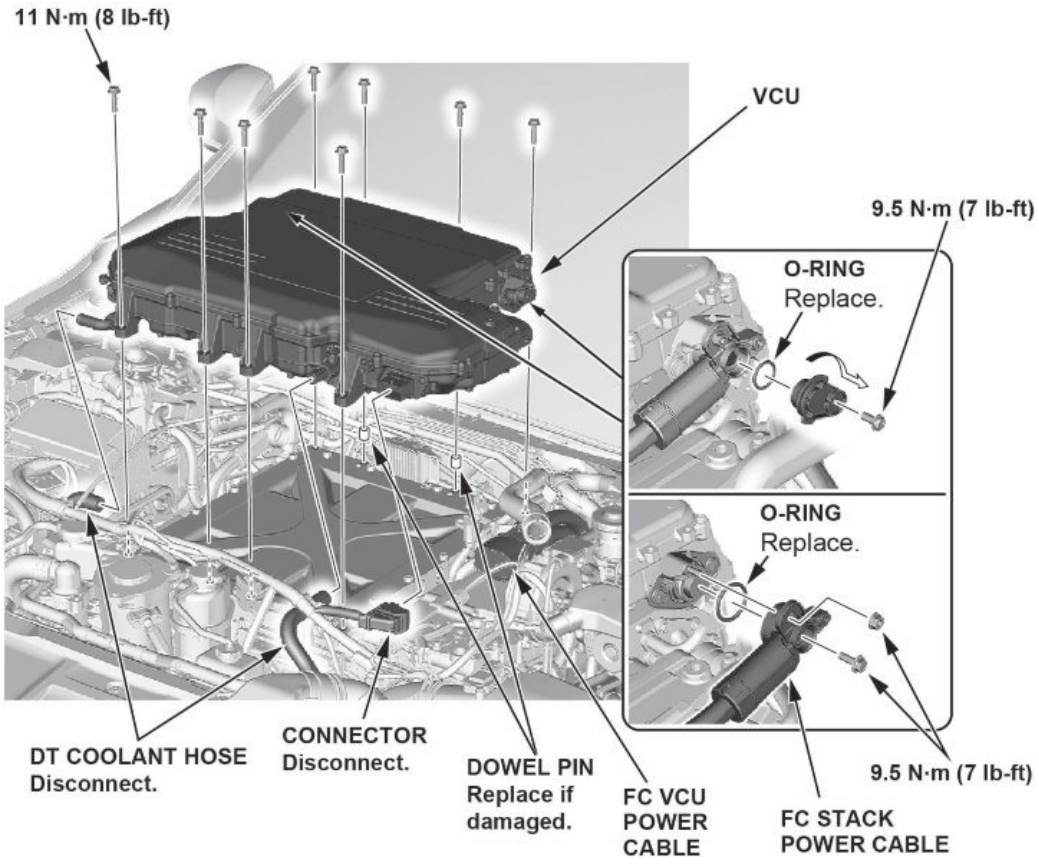


18. Measure the voltage of the FC VCU by connecting a multimeter to both the right and left terminal. Make sure to wait for the voltage to be 30-volts or less before continuing.



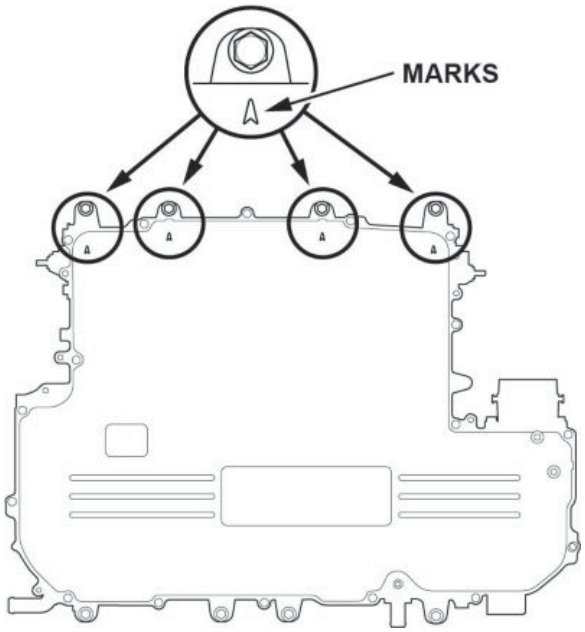
19. Remove the VCU. Refer to the service information for additional information.



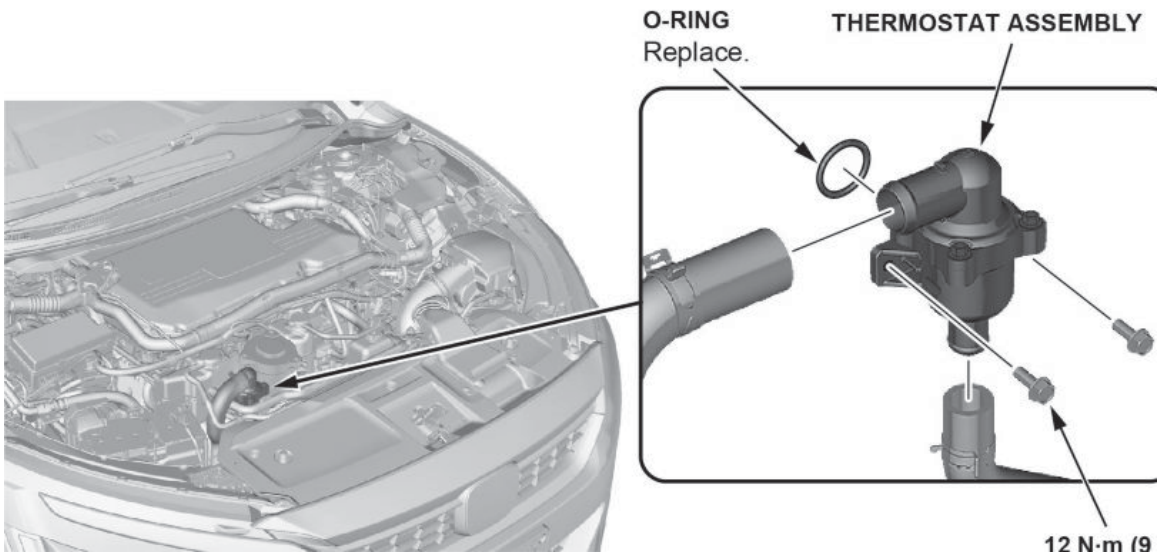


NOTE

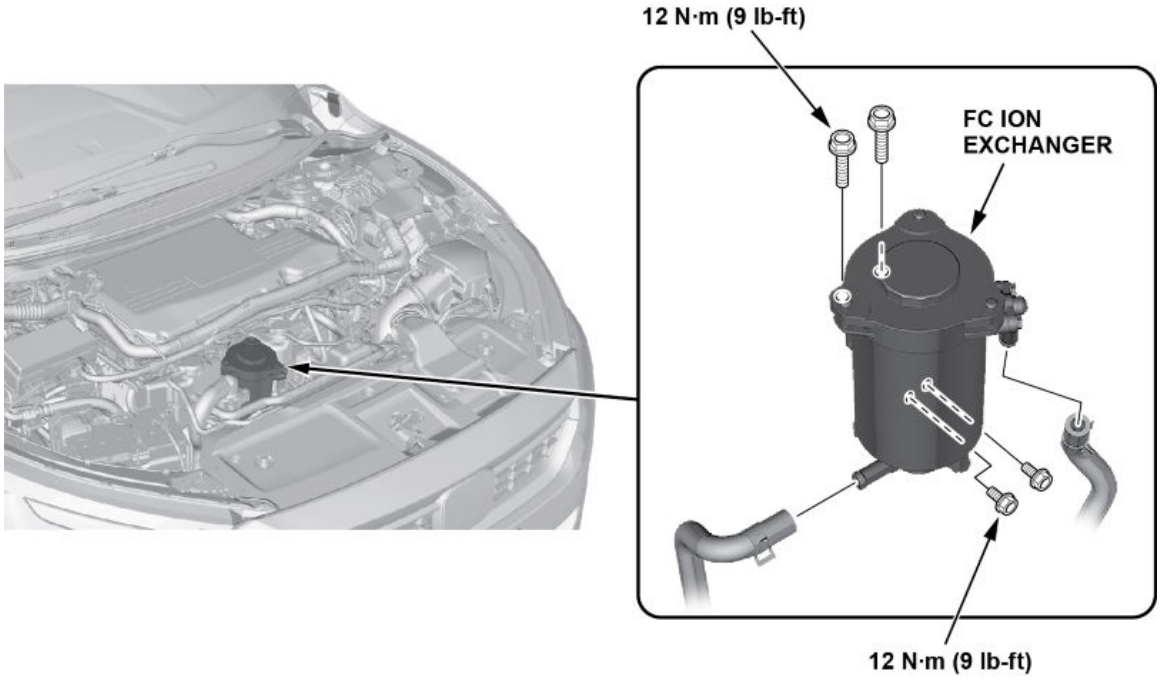
The marks located on the back of the FC VCU show which bolts to remove.



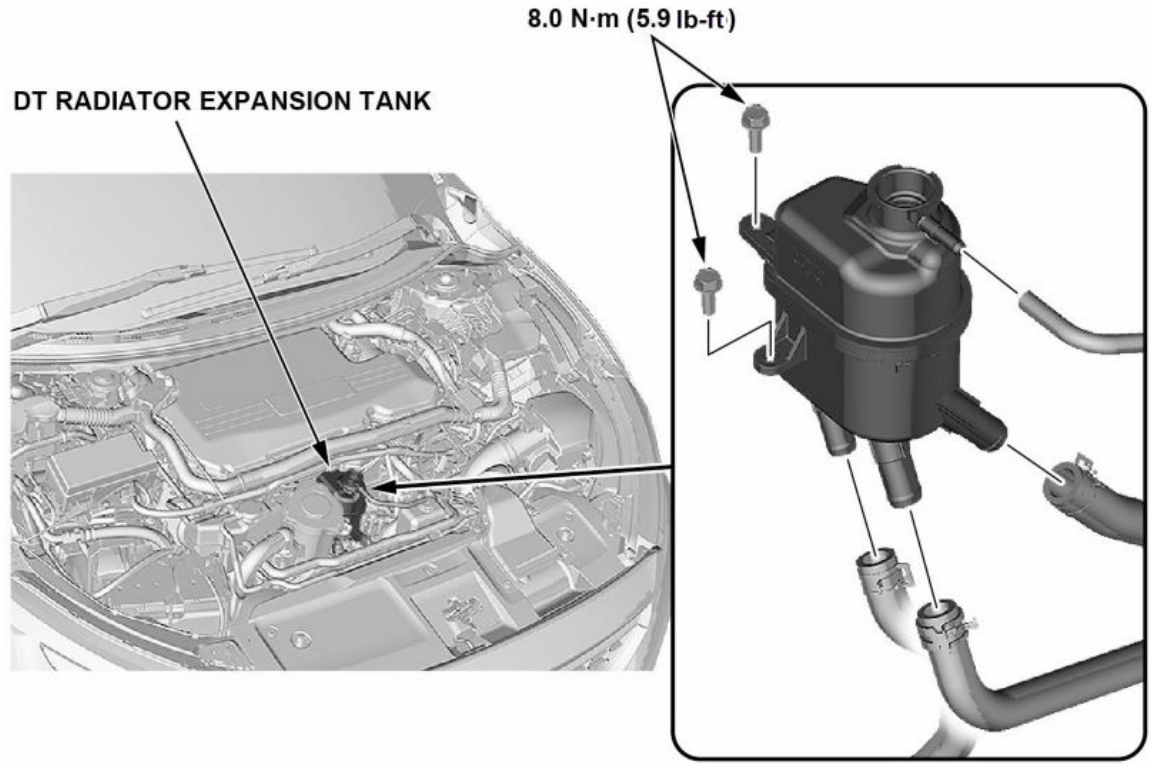
20. Remove the thermostat.



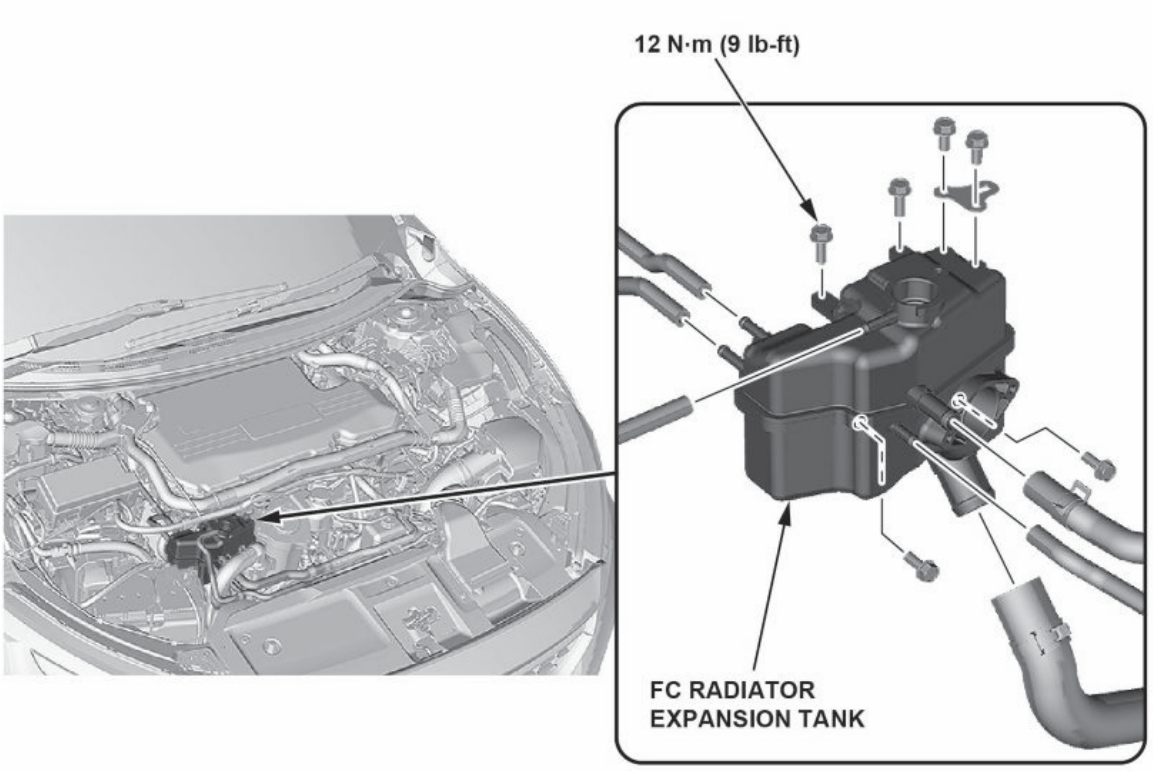
21. Remove the FC ion exchanger.



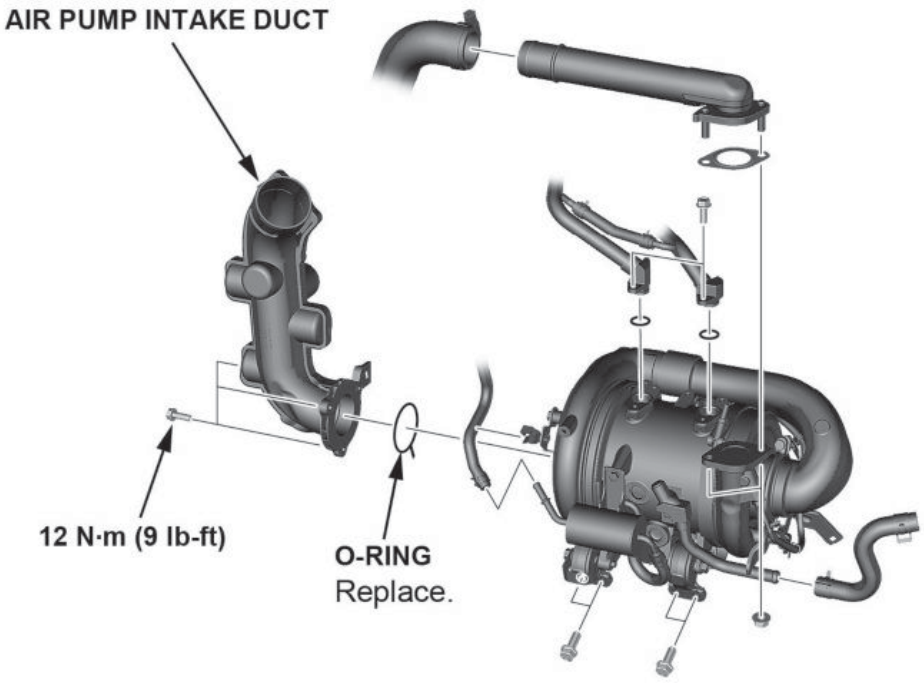
22. Remove the DT radiator expansion tank.



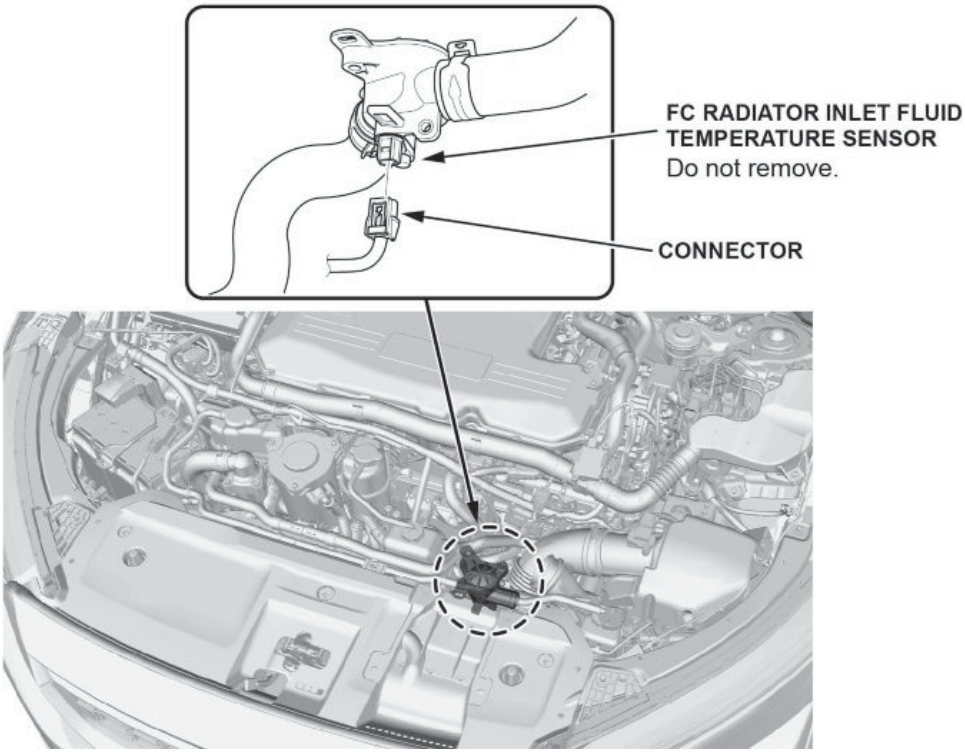
23. Remove the FC radiator expansion tank.



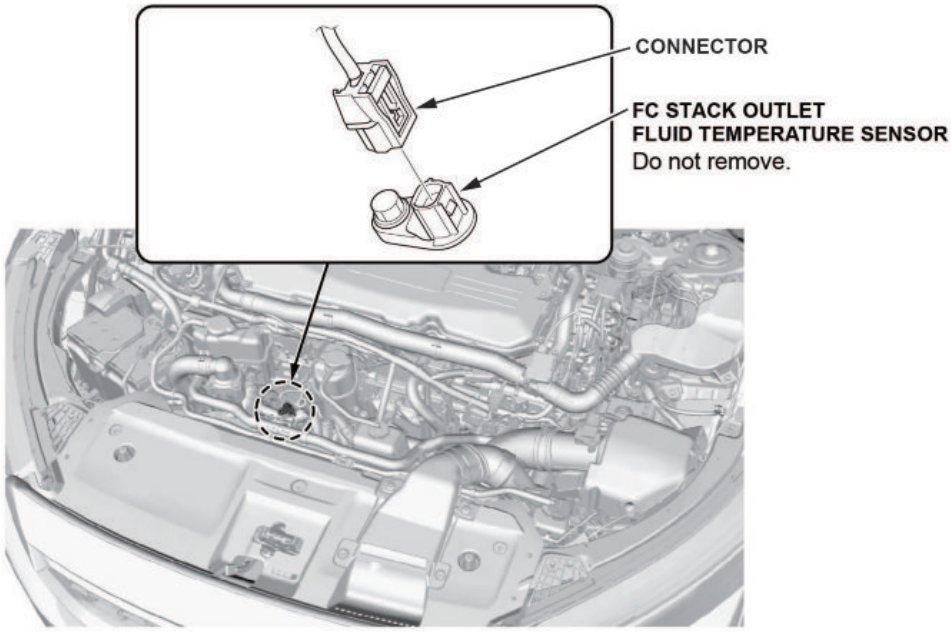
24. Remove the air pump intake duct (air cleaner duct).



25. Disconnect the FC radiator inlet fluid temperature sensor. **Do not remove the sensor**.



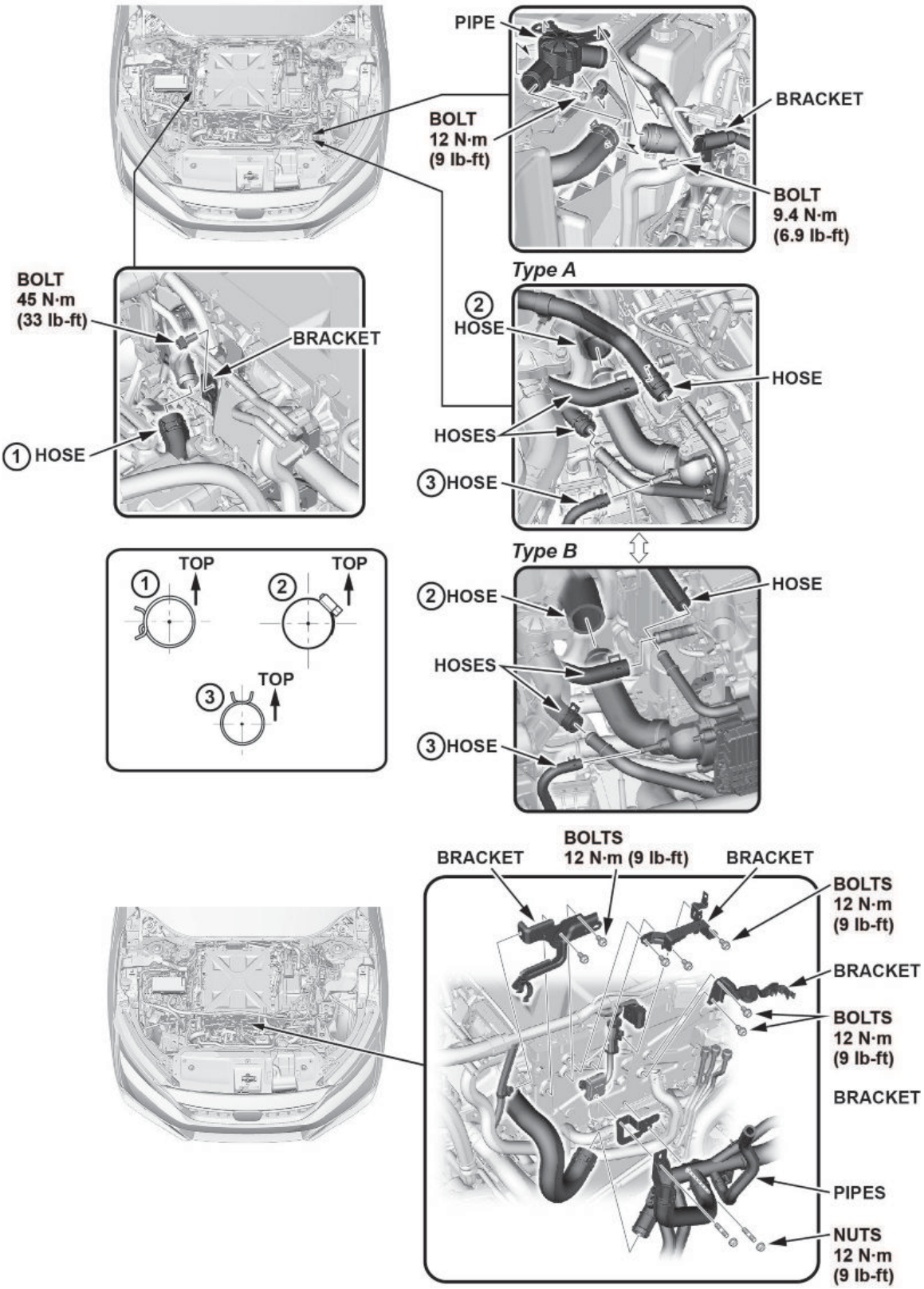
26. Disconnect the FC stack outlet fluid temperature sensor. **Do not remove the sensor**.



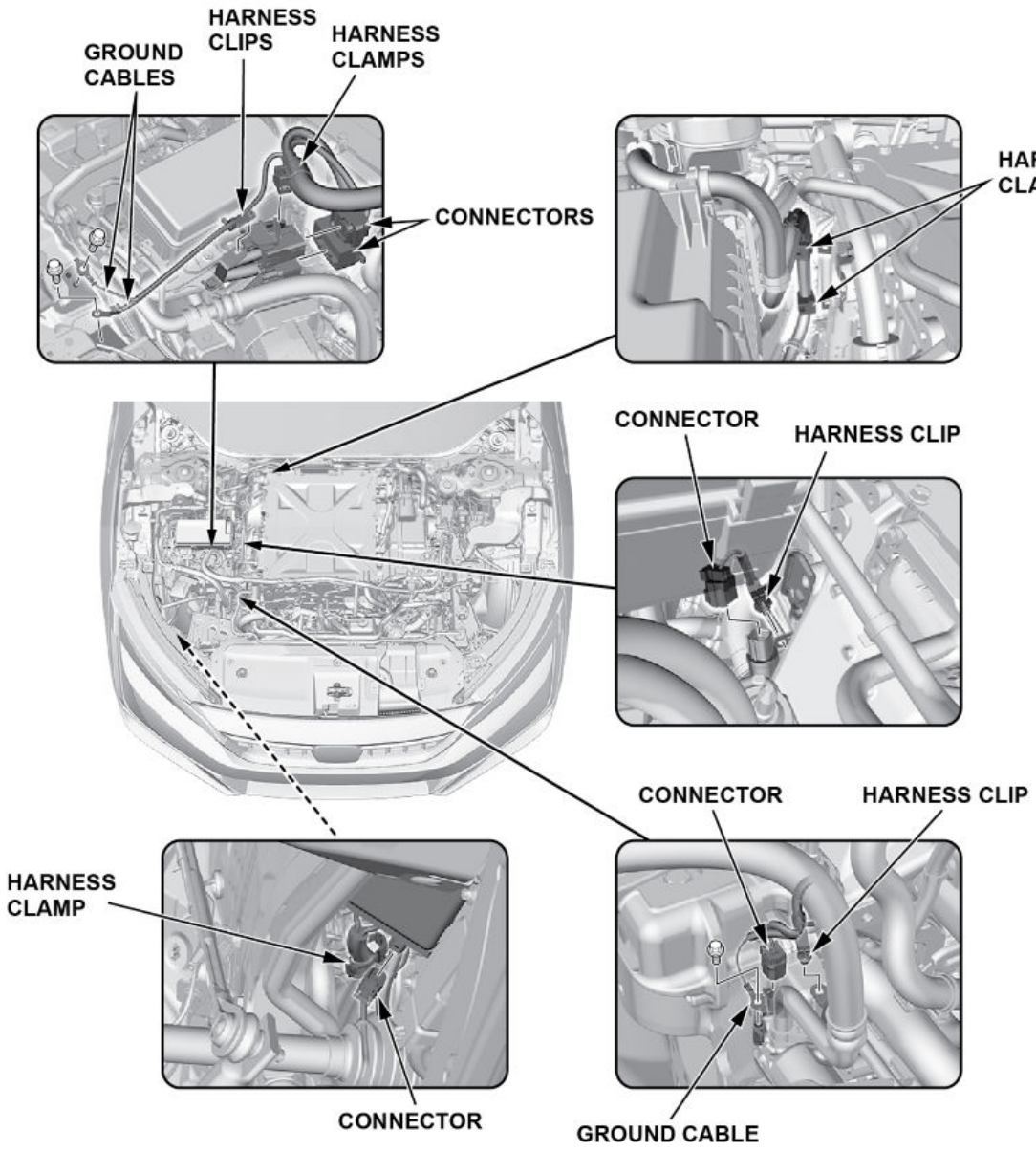
27. Remove the parts surrounding the FC stack.

NOTE

This procedure will not require the removal of the FC ECU. **Do not** remove the FC ECU from the FC stack.



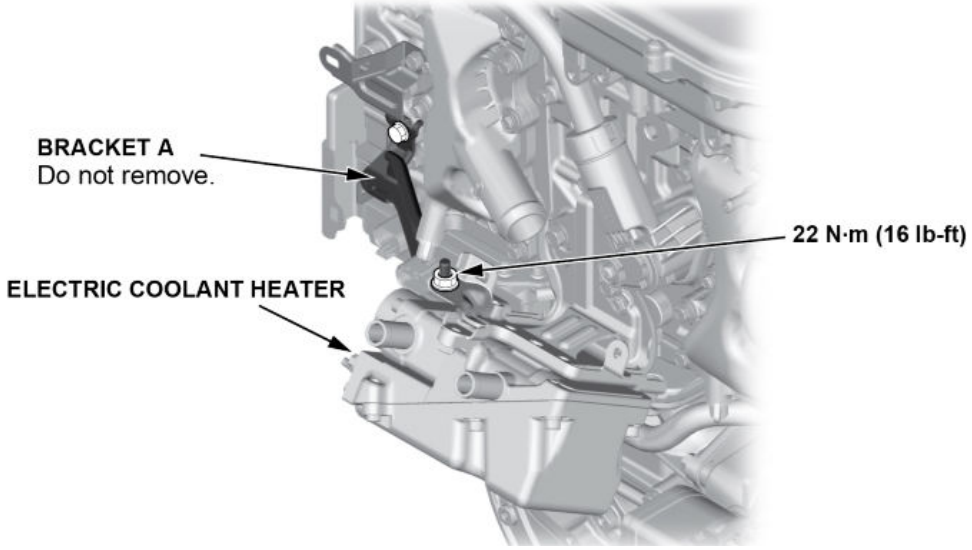
28. Disconnect the FC wire harness.



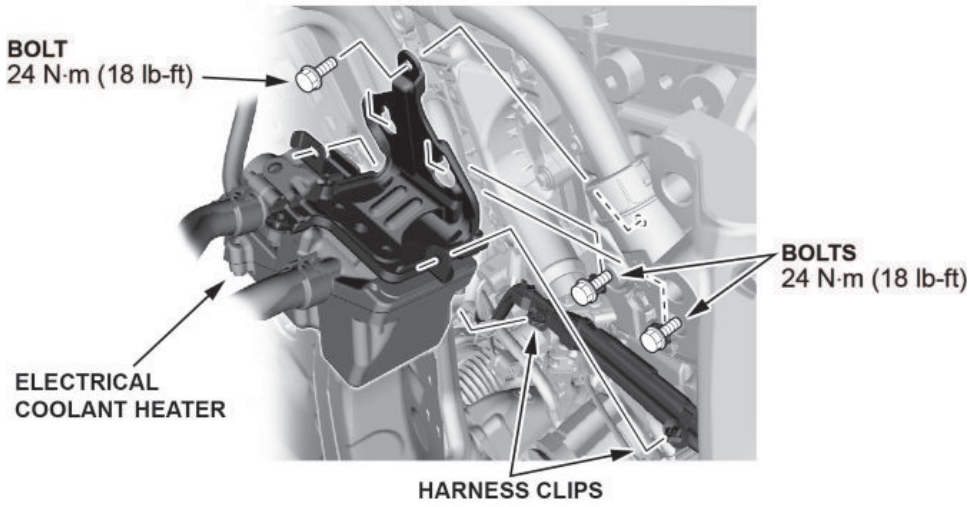
29. Remove the electric coolant heater from the FC stack, but do not remove bracket A. Once the heater is removed, place it on the frame, out of the way.

NOTE

You do not need to remove the hoses from the heater, only the electrical connection.



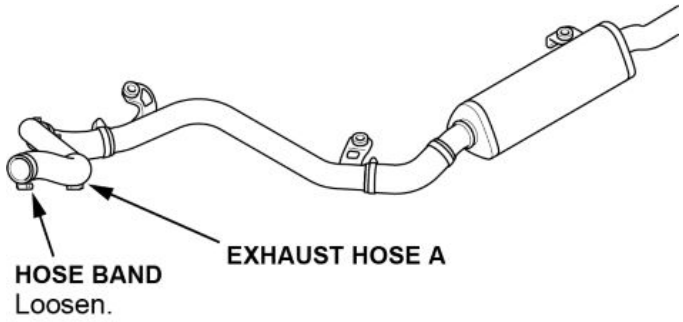
29.1. Remove the harness clips.



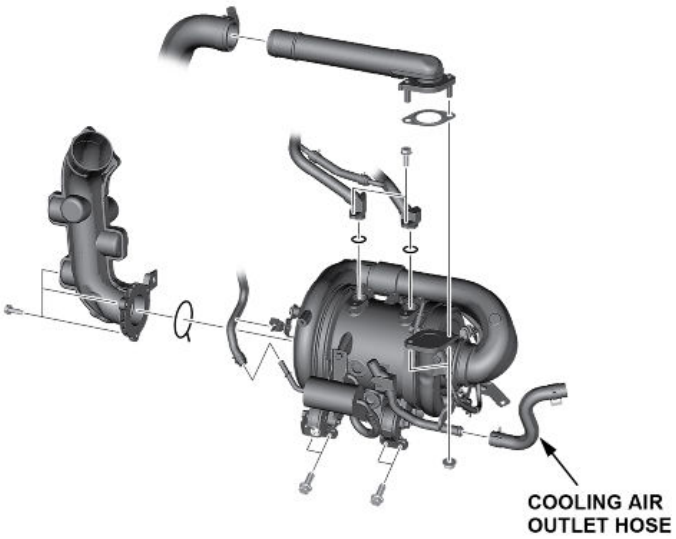
29.2. Remove the bolts.

29.3. Disconnect the harness connector from the heater.

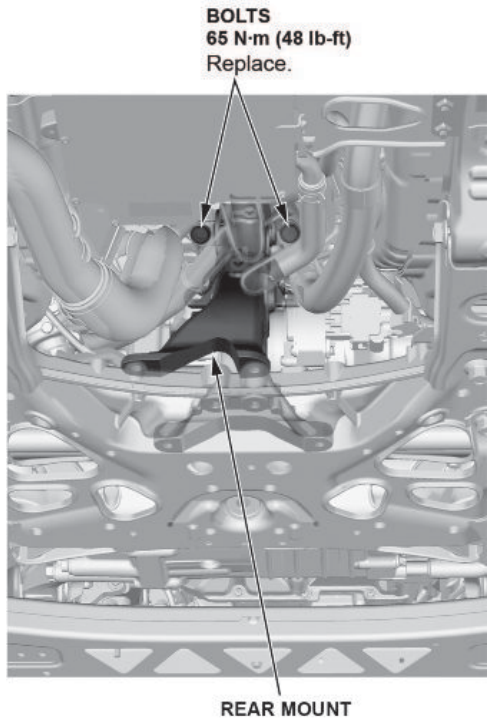
30. Loosen and disconnect, but do not remove exhaust hose A from the FC stack outlet.



31. Disconnect the cooling air outlet hose from the air pump unit.



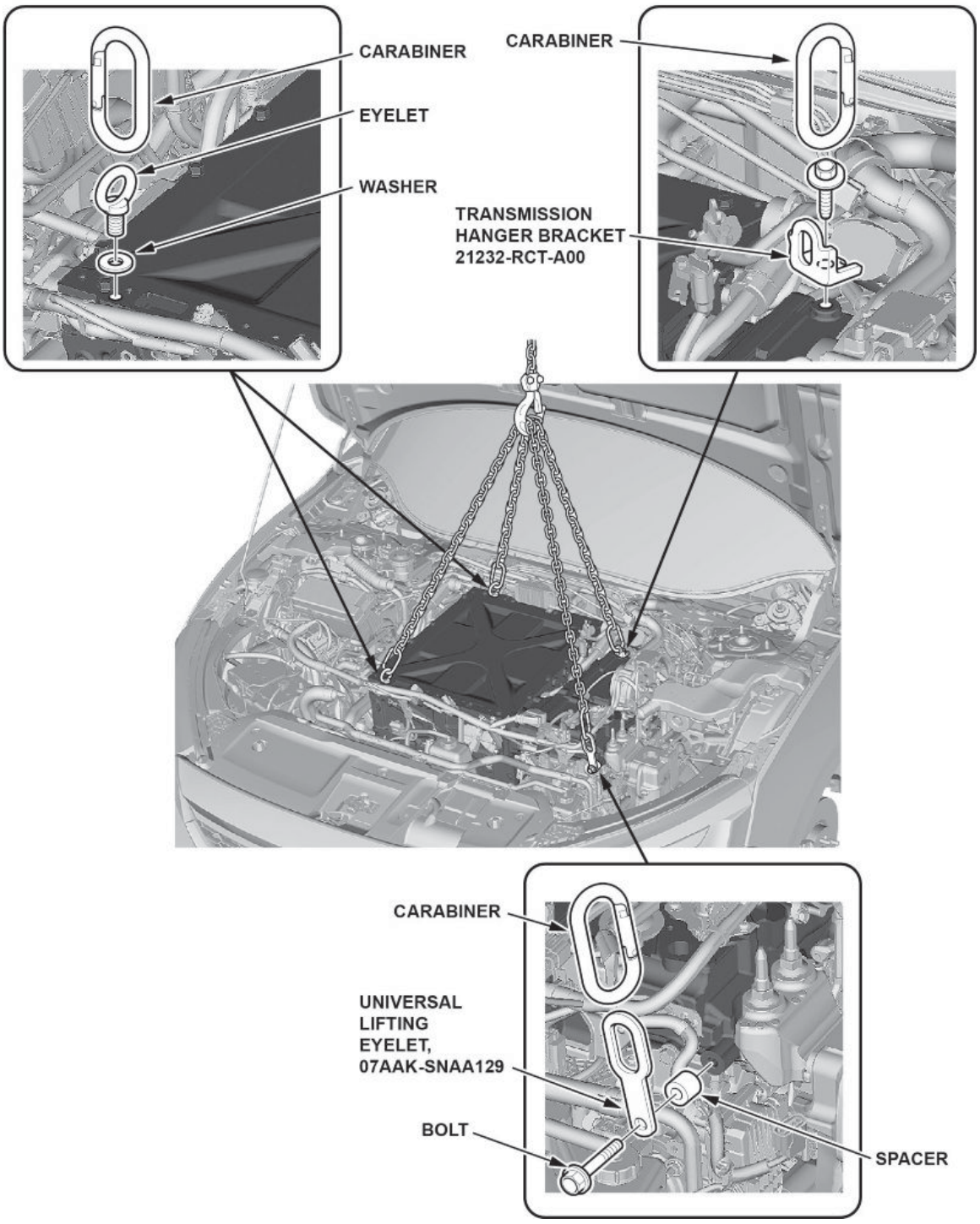
32. Remove the rear mounting bolts from the FC stack.



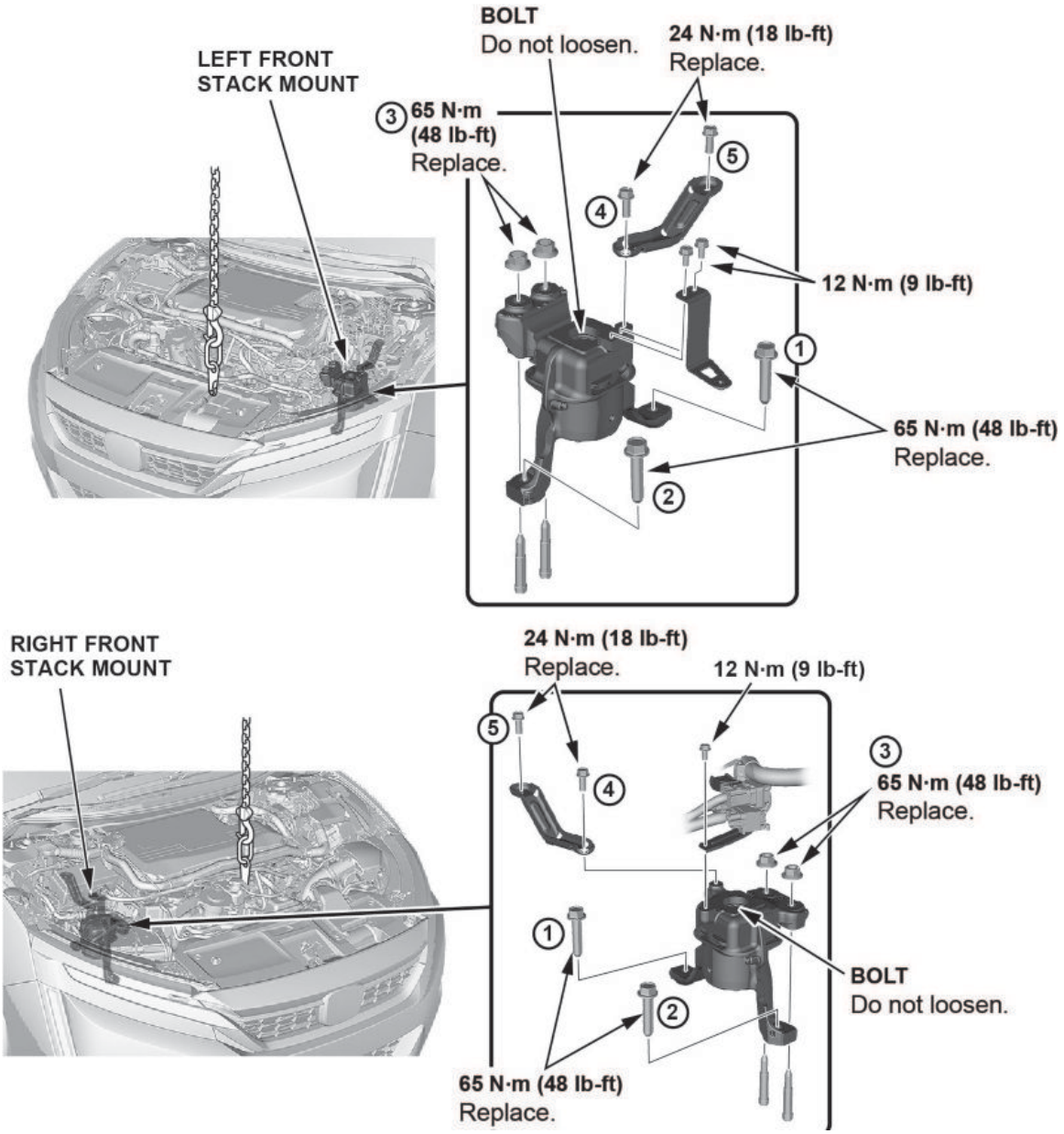
33. Install a chain hoist to the FC stack.

NOTE

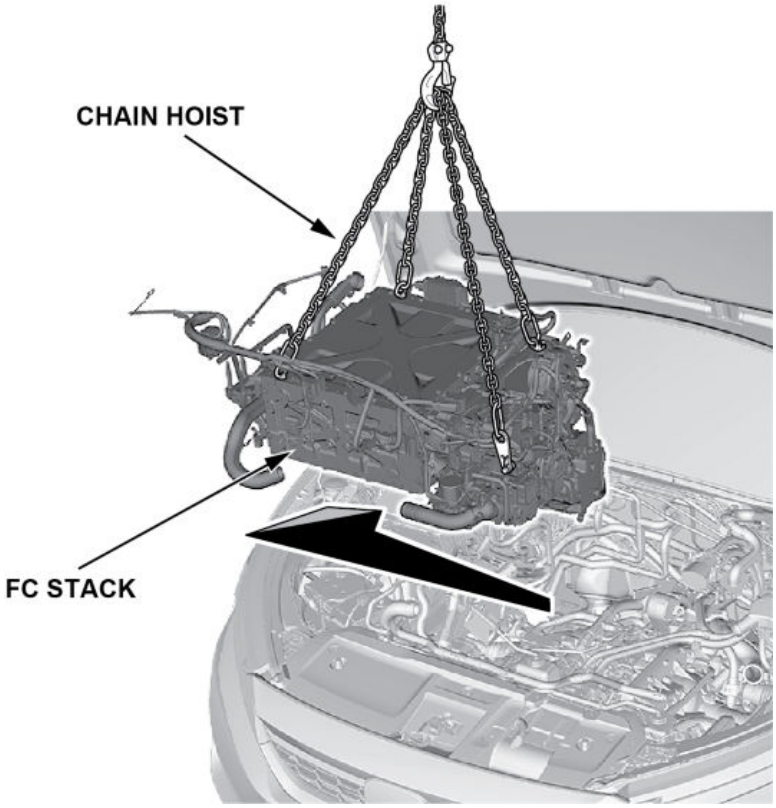
Use a commercially available carabiner, eyelet, washer, spacer, and bolt.



34. Remove the left front and right front FC stack mounts.



35. Remove the FC stack.



36. Write down the VIN and serial number (SN) of the FC stack on your RO.

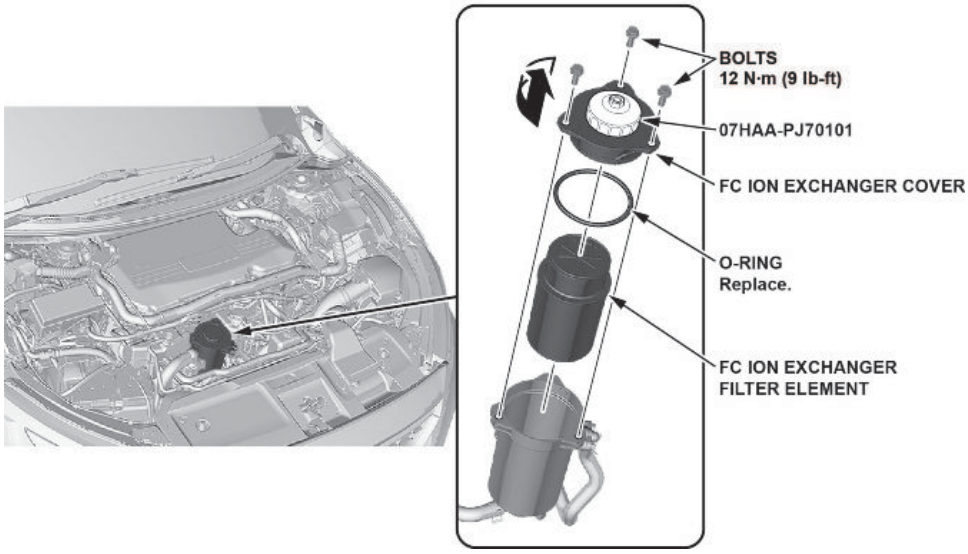
    Important: If this information is missing on the warranty claim, the claim will be debited. Make sure you write it down on the RO.

37. Take the FC stack to the vehicle that is receiving the stack.
38. Install the FC stack in reverse order using the parts as needed from the stack kit.

39. Install a new FC ion exchanger filter.

NOTE

Remove the cover using an oil filter wrench.



40. Install all of the removed parts in the reverse order of removal.
41. Reset the maintenance minder (A1) using the i-HDS.

NOTES

If you are unable to successfully reset the maintenance minder, turn the ignition to OFF and wait **10 minutes** after the air pump unit has stopped.

- After turning the ignition to OFF, the air pump unit will continue to operate for a minute or less (it may be longer in low temperatures) and shut off automatically. Once the air pump unit stops, wait at least **10 minutes** to start the maintenance minder reset procedure.
- To check if the air pump unit is running, go to the back of the vehicle and check the diluter (exhaust pipe outlet). You should hear and feel air coming out of it. Once you stop hearing and feeling the air, the air pump unit has stopped.

42. Partially install the NG FC stack to the donor vehicle.

NOTE

You do not have to install the FC stack completely; just bolt down the left front and right front stack mounts to hold the stack in position. You are not required to install all other connections and parts. Excess parts can be stored in the trunk.

END