

Aftertreatment Diesel Exhaust Fluid (DEF) Tank, Level Sensor, Replacement

M-258-014

(Aug 2023)

Valid for

All Mack Trucks USA 2013 to USA 21 built with 70 L DEF Tank

Case description

Mack Trucks now offer an updated UQLS to improve functionality and reliability. The new sensor will be a direct replace except for a jumper harness used to plug the new sensor to the existing chassis harness connector and an accessory kit. Follow the instructions below to install the new UQLS, jumper harness, brackets, and run an accessory kit.

Parts

Note: The different brackets needed depend on the position of the battery box mounting.

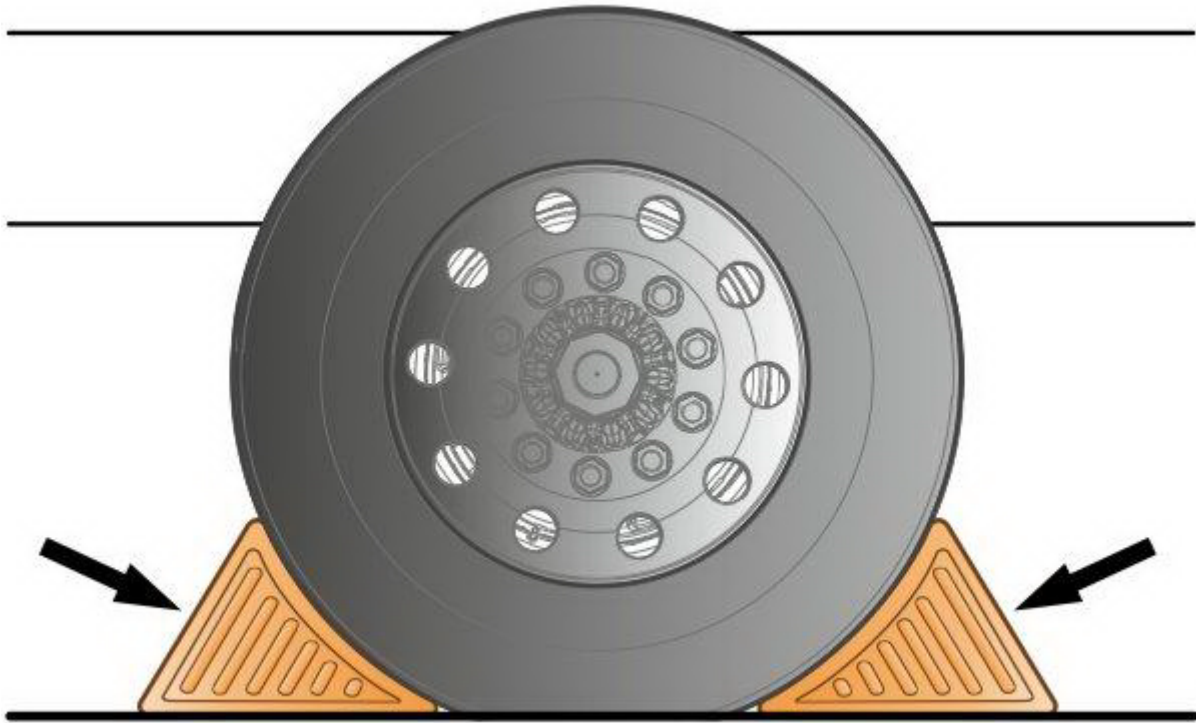
*If the battery box is mounted on the left-hand side (driver side) use bracket **23933365**.*

*If the battery box is mounted on the right-hand side (passenger side) use **23933361**.*

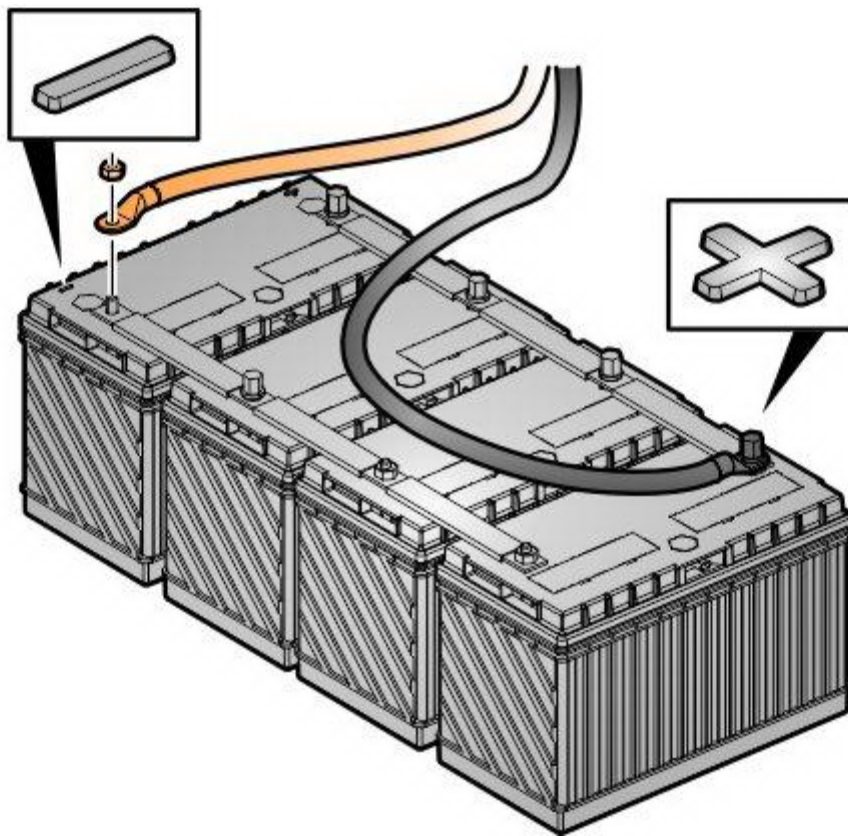
Part Number	Description	Quantity
24383068	UQLS Sensor	1
24399920	Jumper Harness	1
23933365	Bracket BBOX-L	*
23933361	Bracket BBOX-R	*

Repair Procedure

1. Park the vehicle on a level surface.
2. Apply the parking brake.
3. Place the gear selector in neutral.
4. Install the wheel chocks.

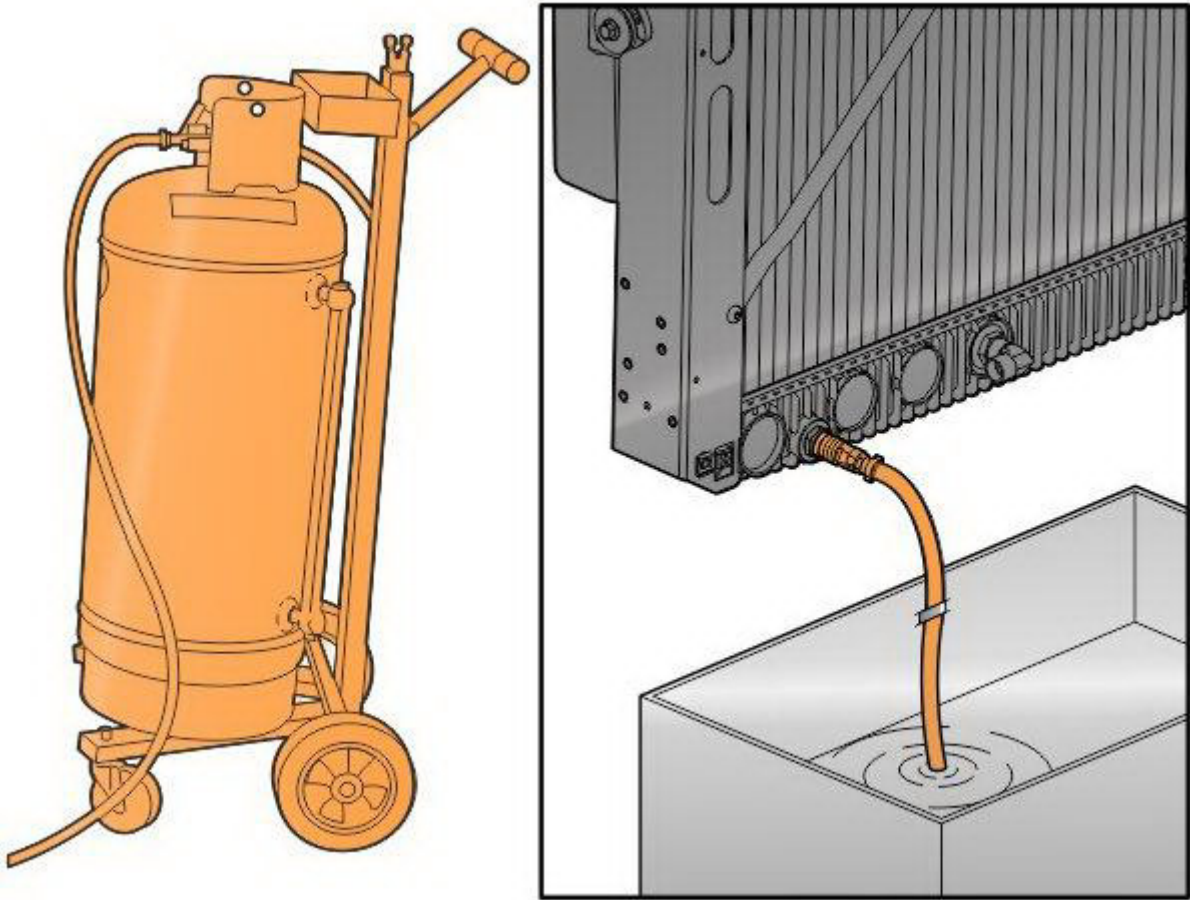


5. Disconnect the cable from the negative terminal.

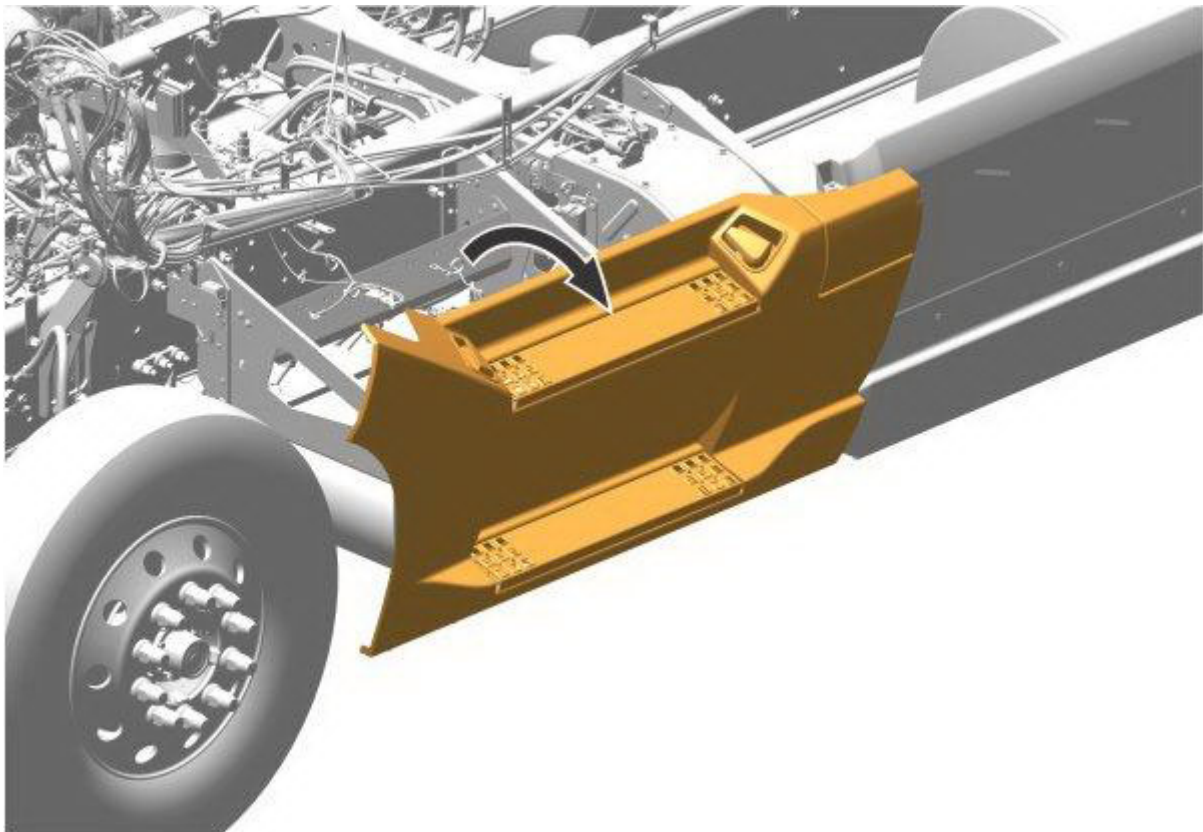


6. Unlatch and raise the hood.

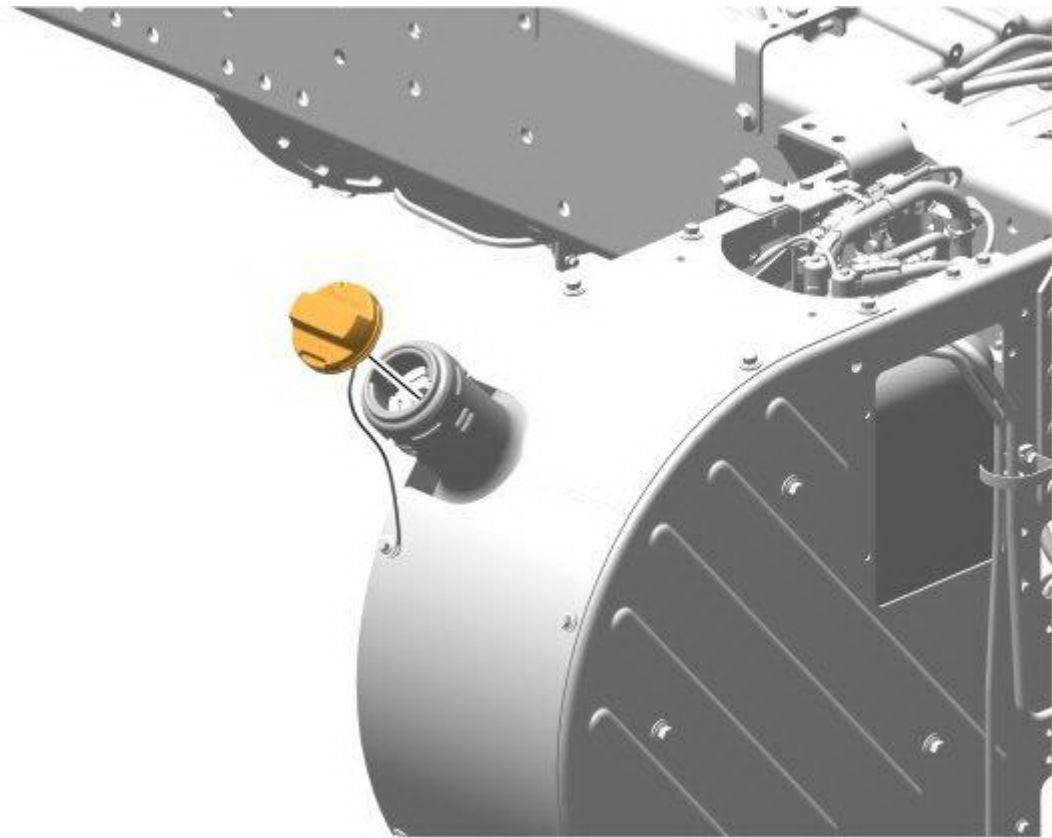
7. Drain the coolant.



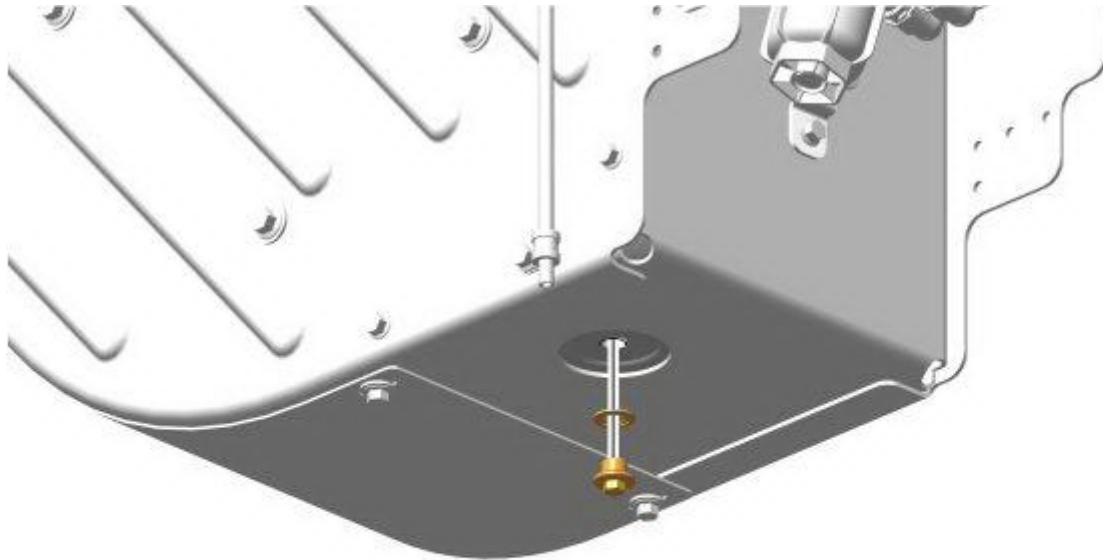
8. Unlatch and remove the fairing.



9. Remove the filler cap.



10. Position a draining container.
11. Clean around the drain plug.
12. Remove the drain plug.
13. Drain the reagent (Diesel Exhaust Fluid).



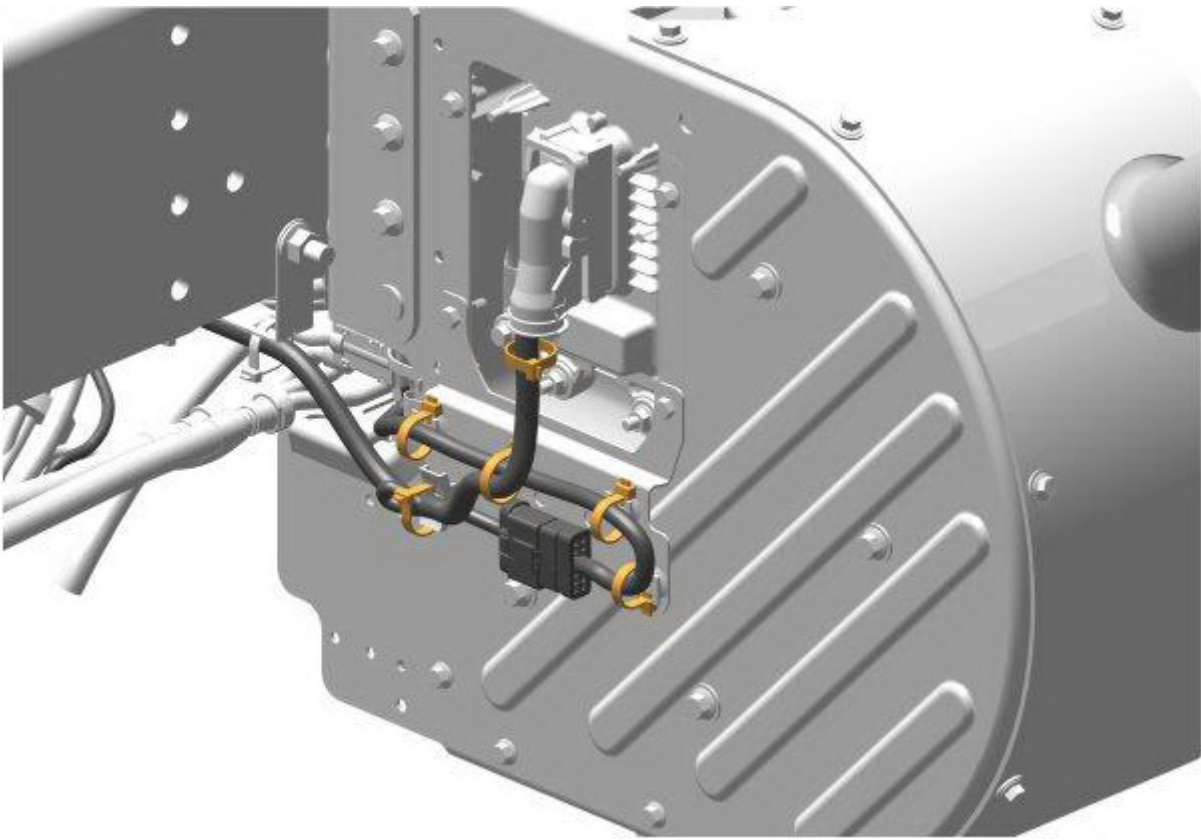
14. Once the fluid is drained, replace the plug and torque to specifications.

Tightening torque	
Tank, reagent (Diesel Exhaust Fluid), drain plug	24 ± 4 Nm

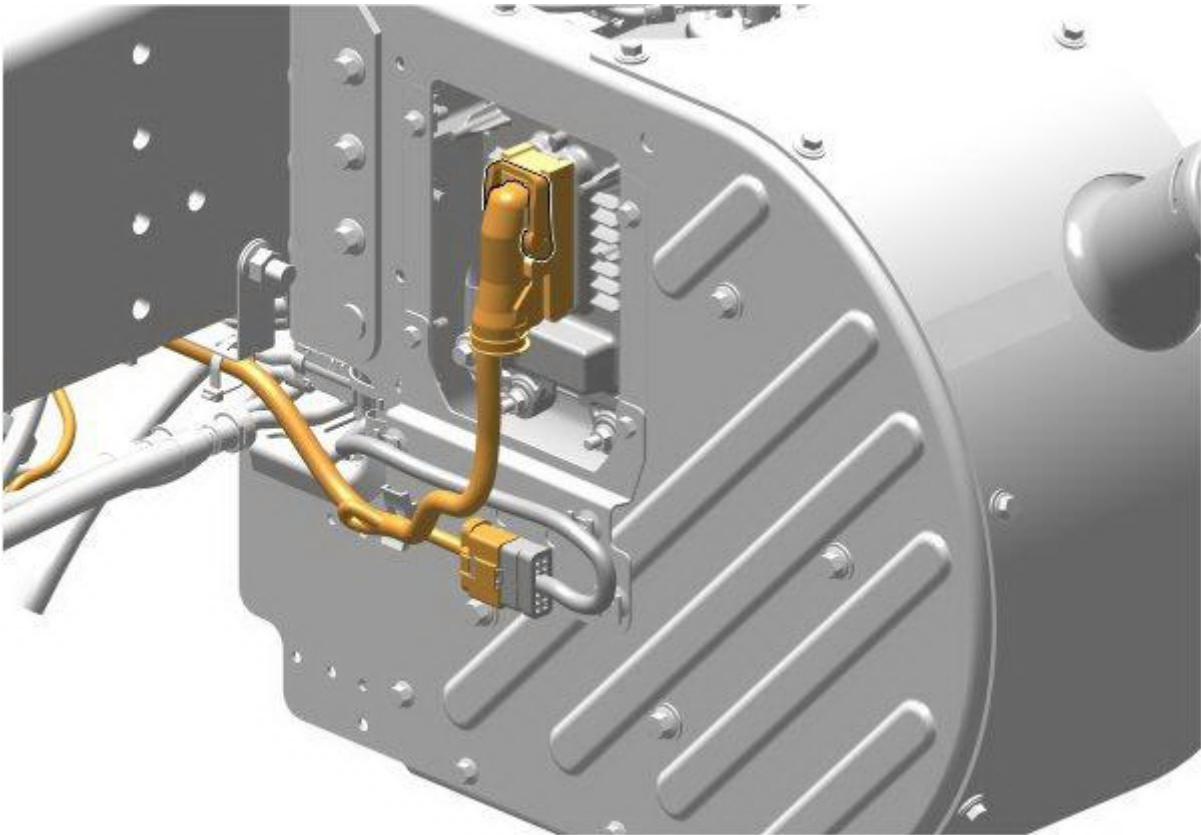
15. Install the filler cap.



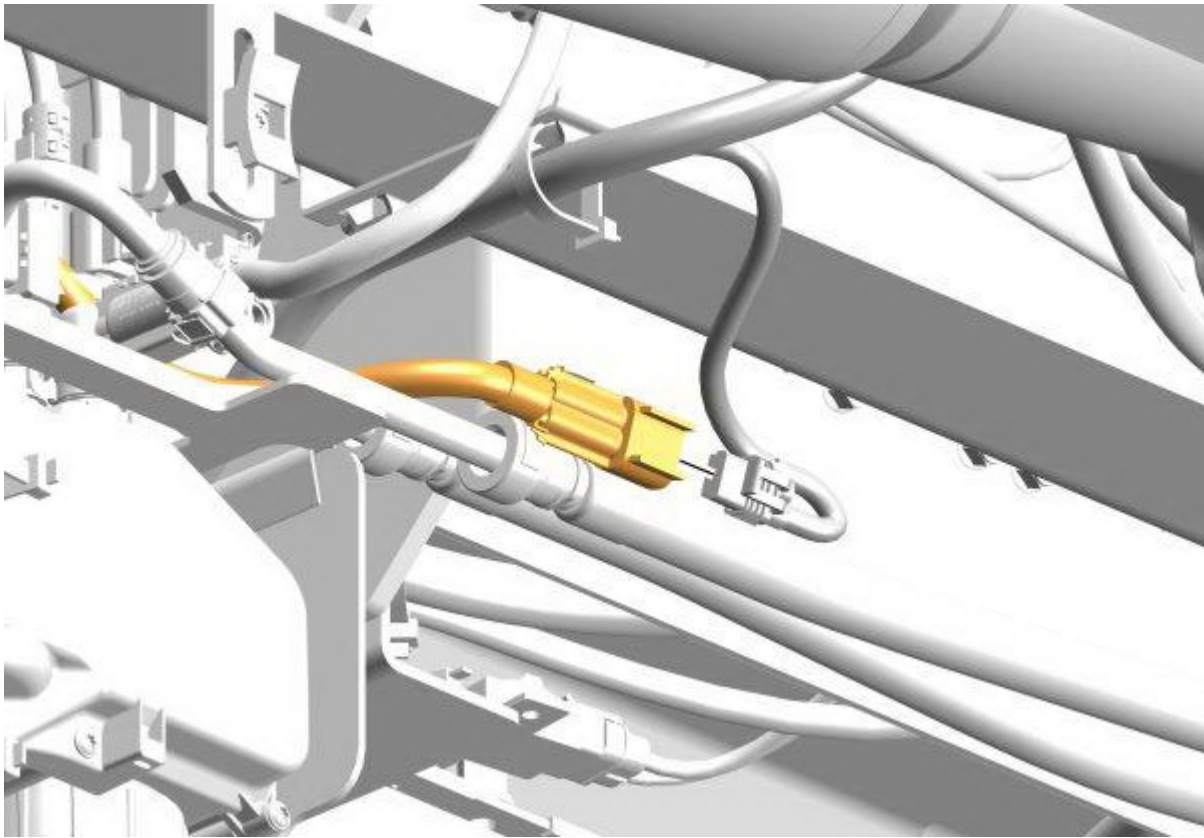
16. Remove the cable ties.



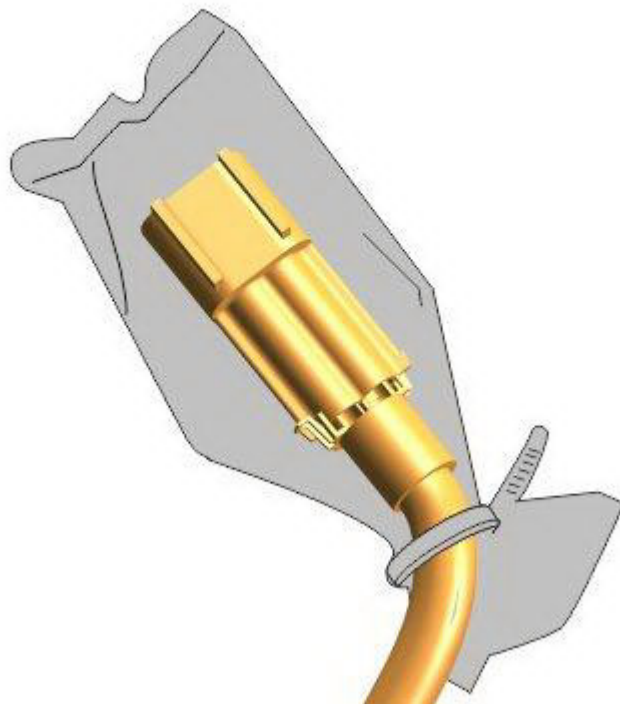
- 17. Disconnect the connectors.
- 18. Move aside the cable harness.



- 19. Remove the cable tie.
- 20. Disconnect the connector.
- 21. Move aside the cable harness.

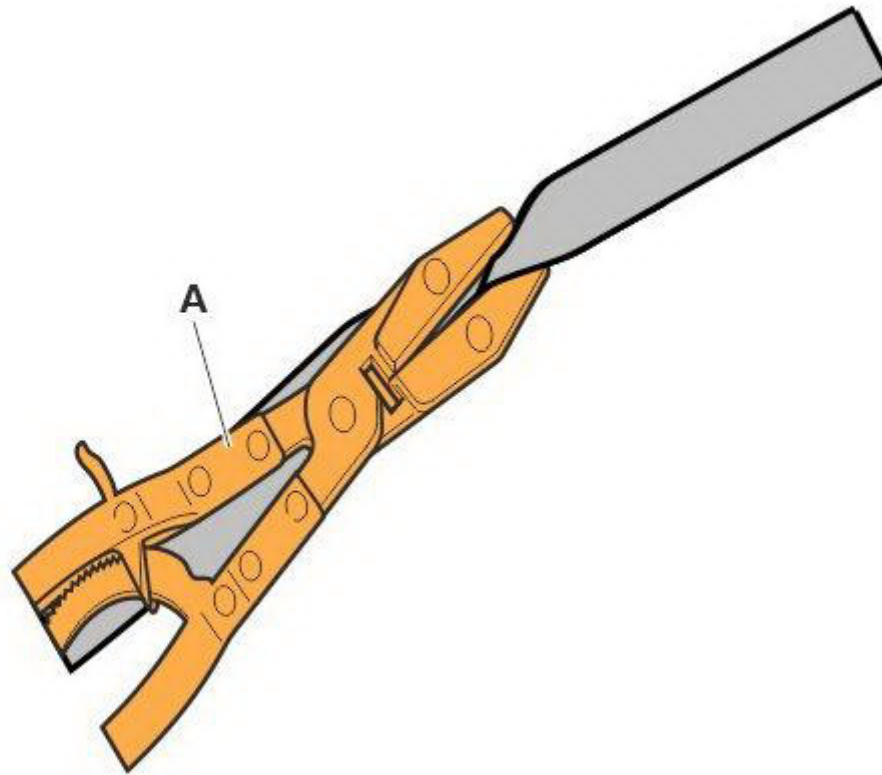


22. Protect the connector with a plastic bag.

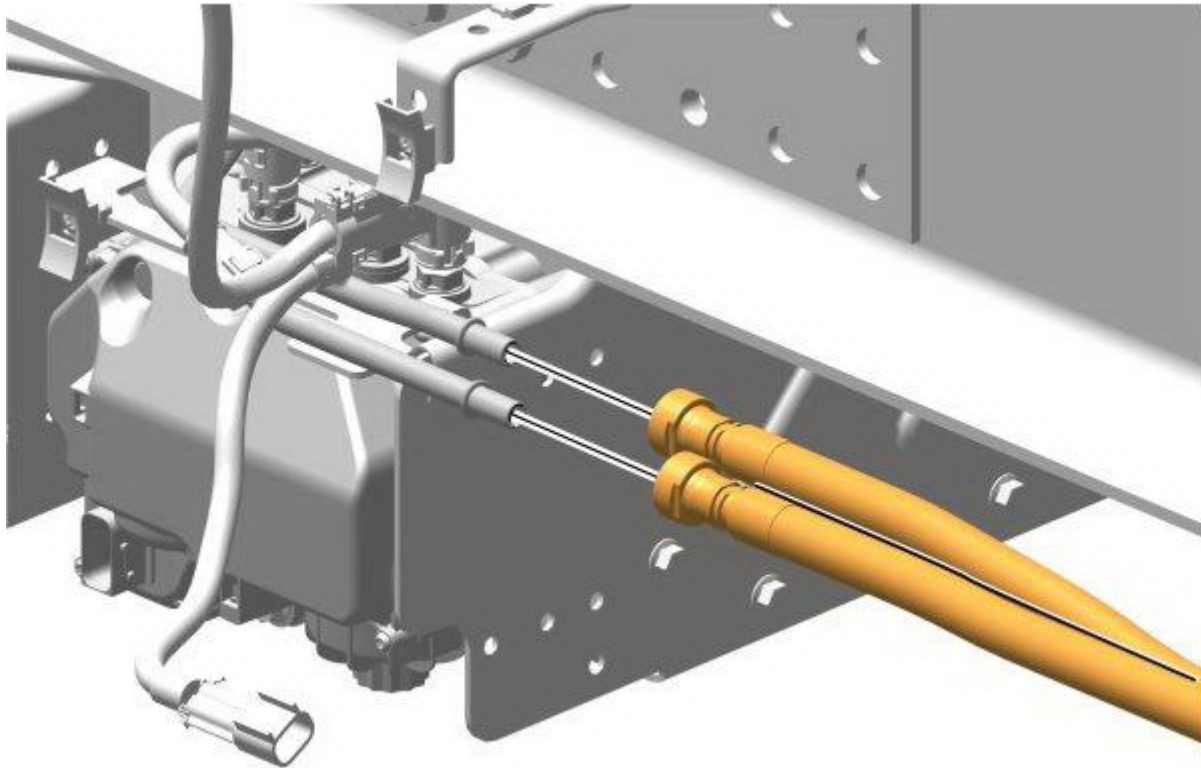


23. Install the tool (A) to each coolant hose.

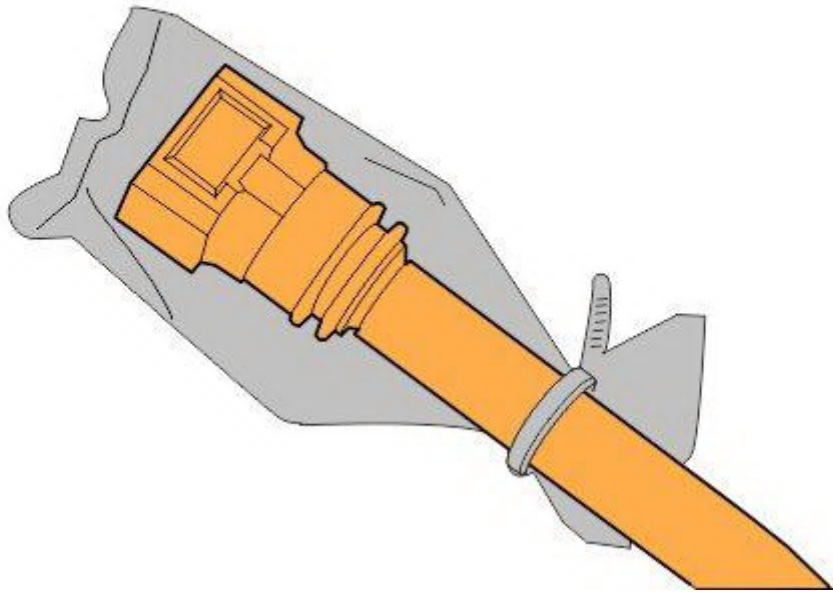
Required material		
Pliers	1158957	2 pcs



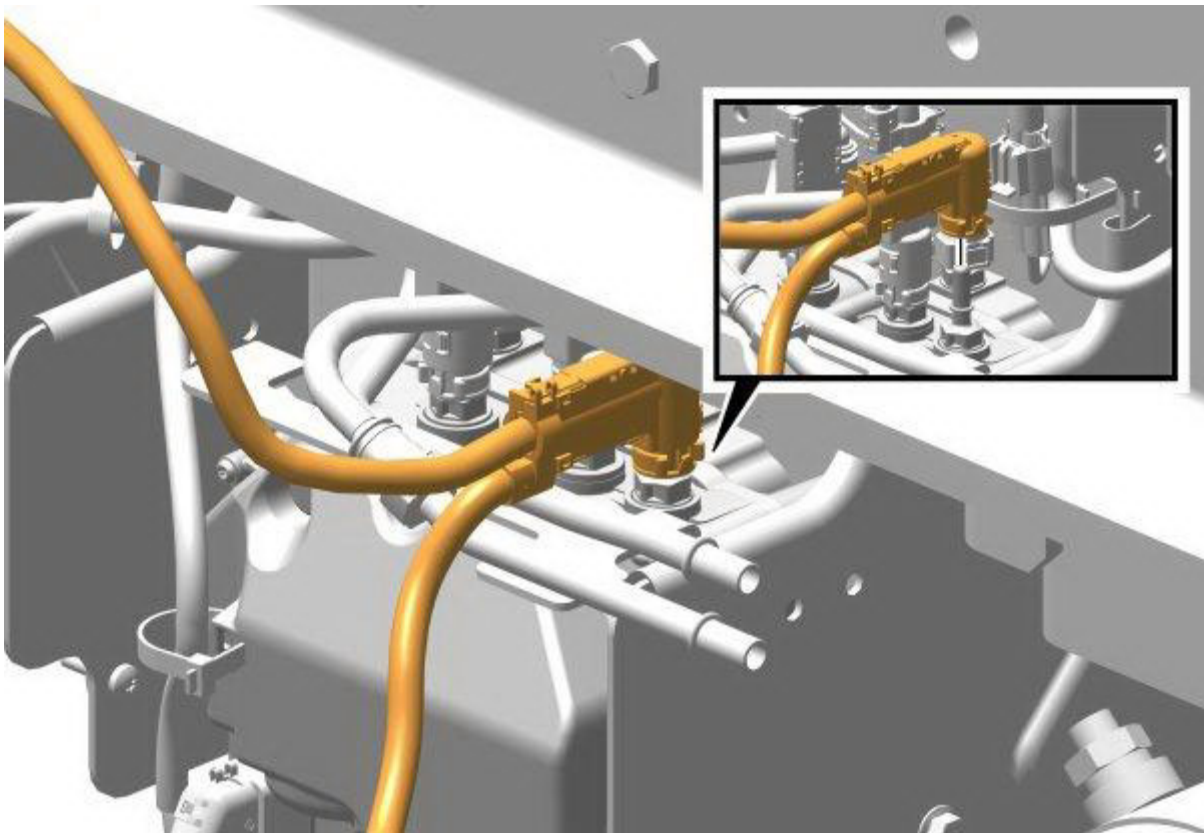
24. Disconnect the coolant hoses and move aside.



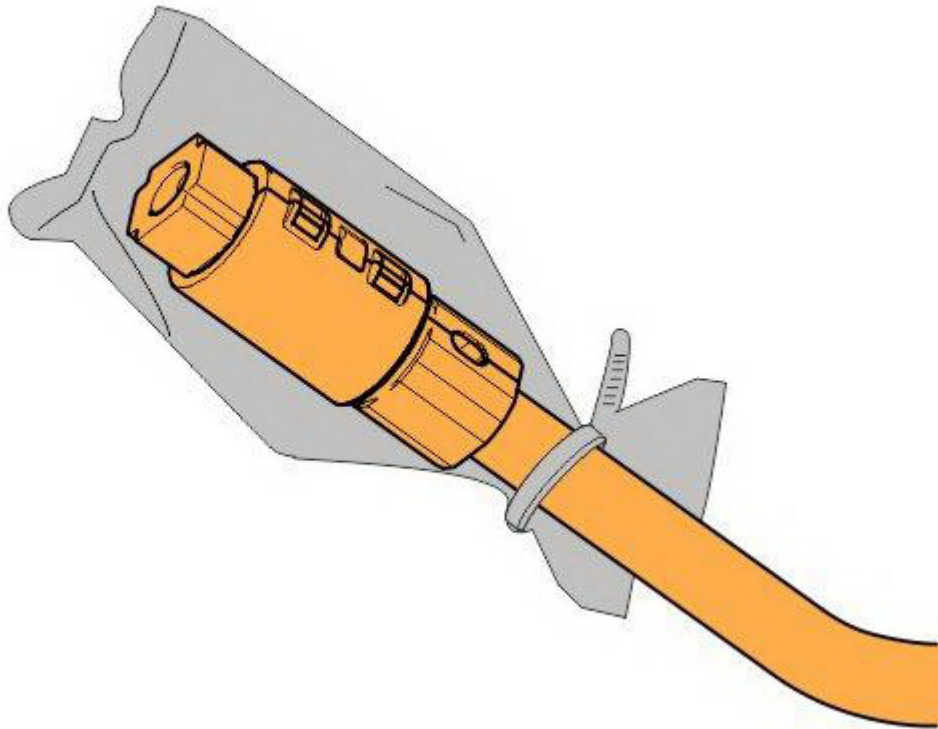
25. Protect the hoses with the plastic bags.



- 26. Disconnect the connector.
- 27. Move aside the hose.

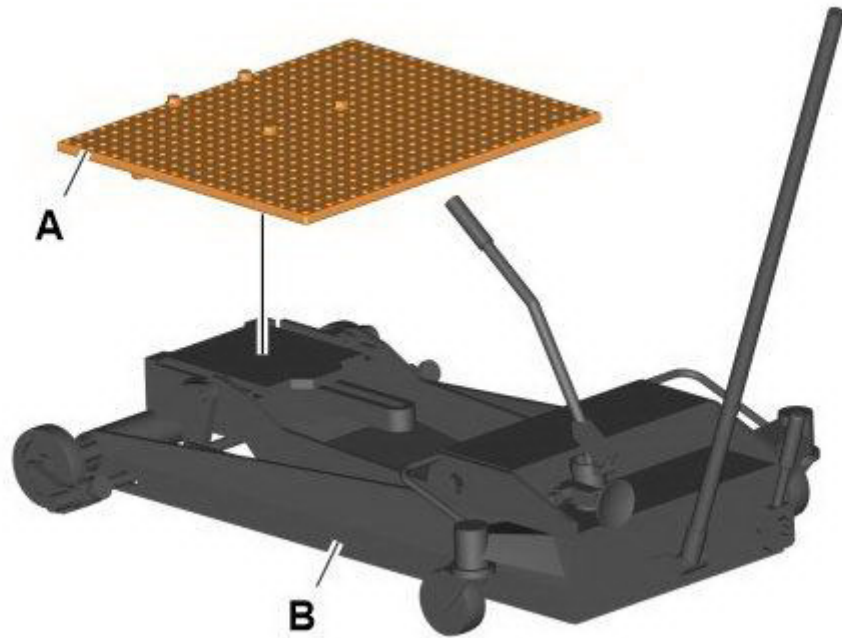


- 28. Protect the hose with a plastic bag.

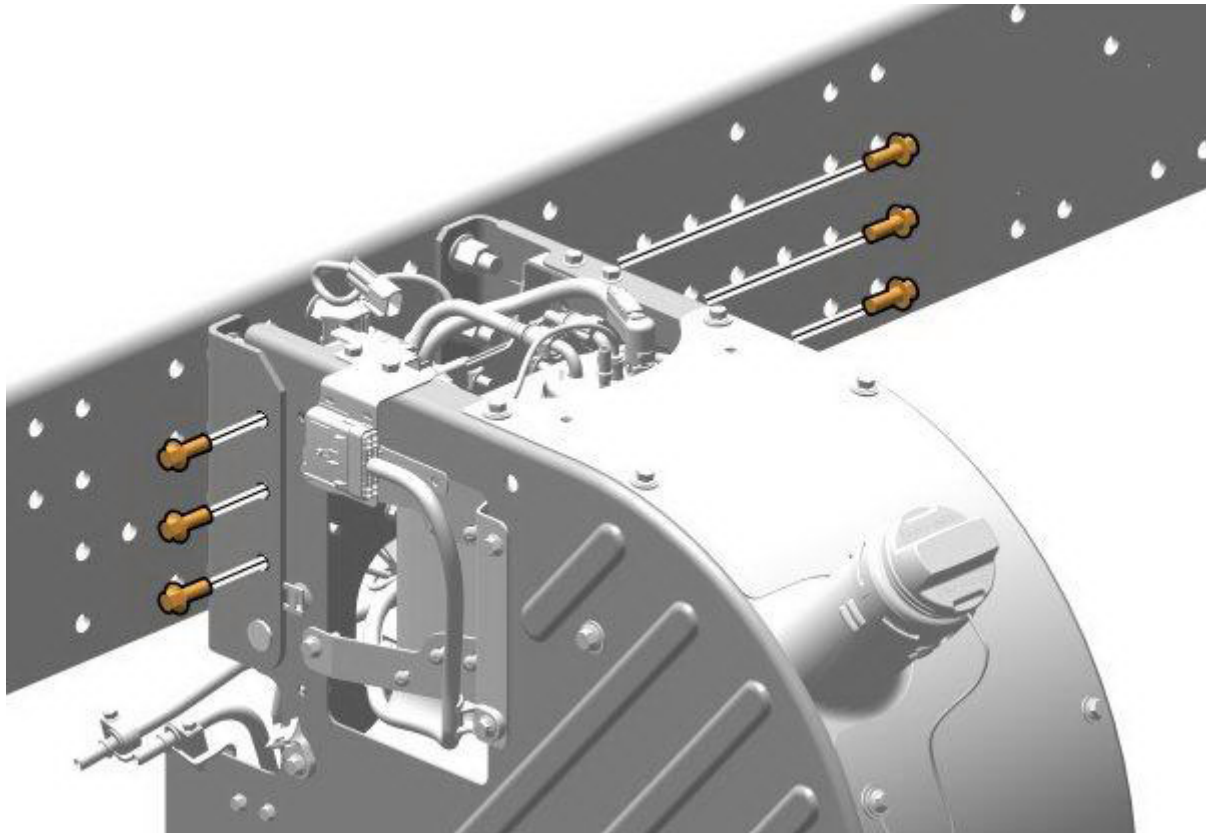


29. Install the plate **(A)** on the trolley jack **(B)**.

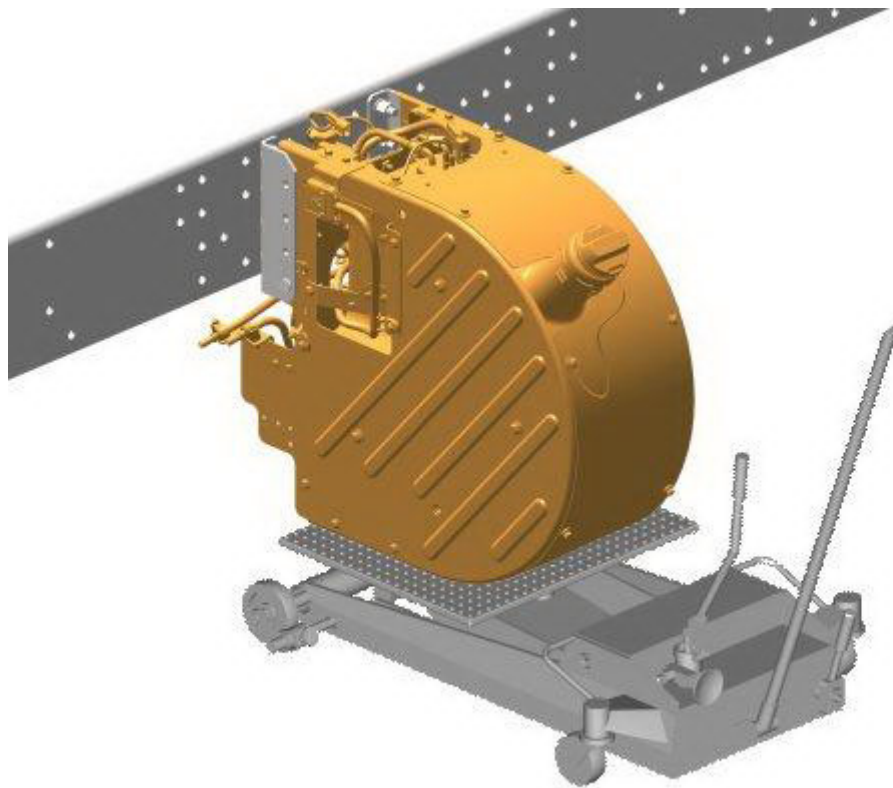
Required material		
A	PLATE	88800229
B	TROLLEY_JACK	9999954



30. Remove the screws.

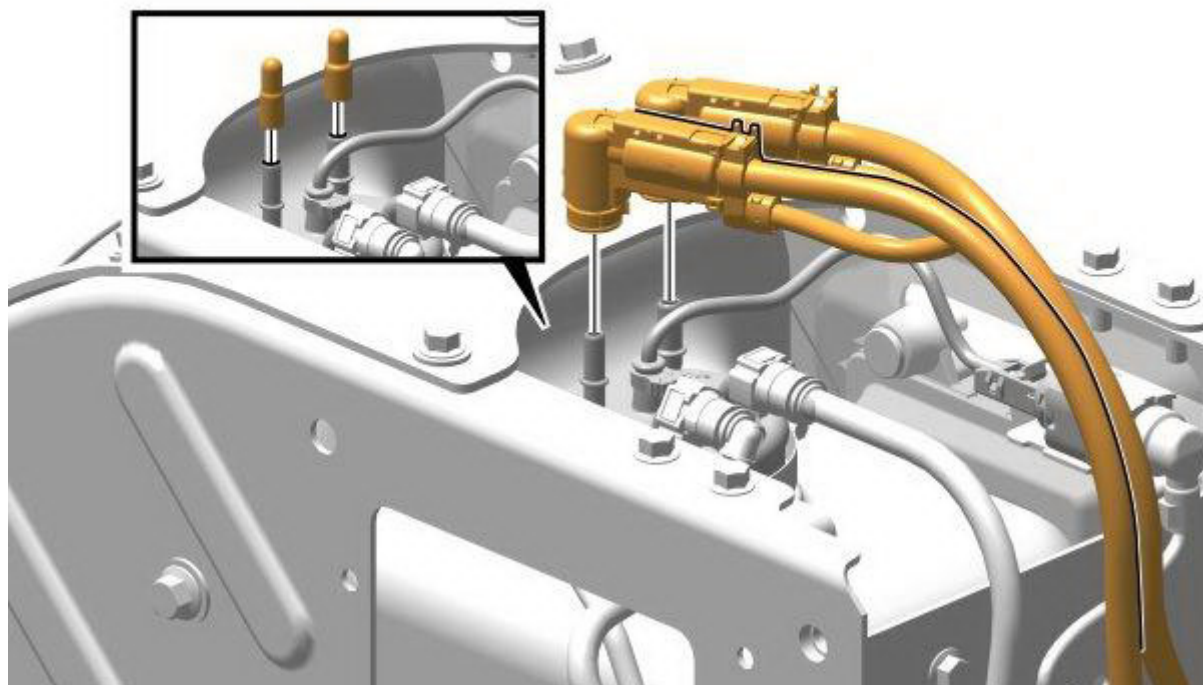


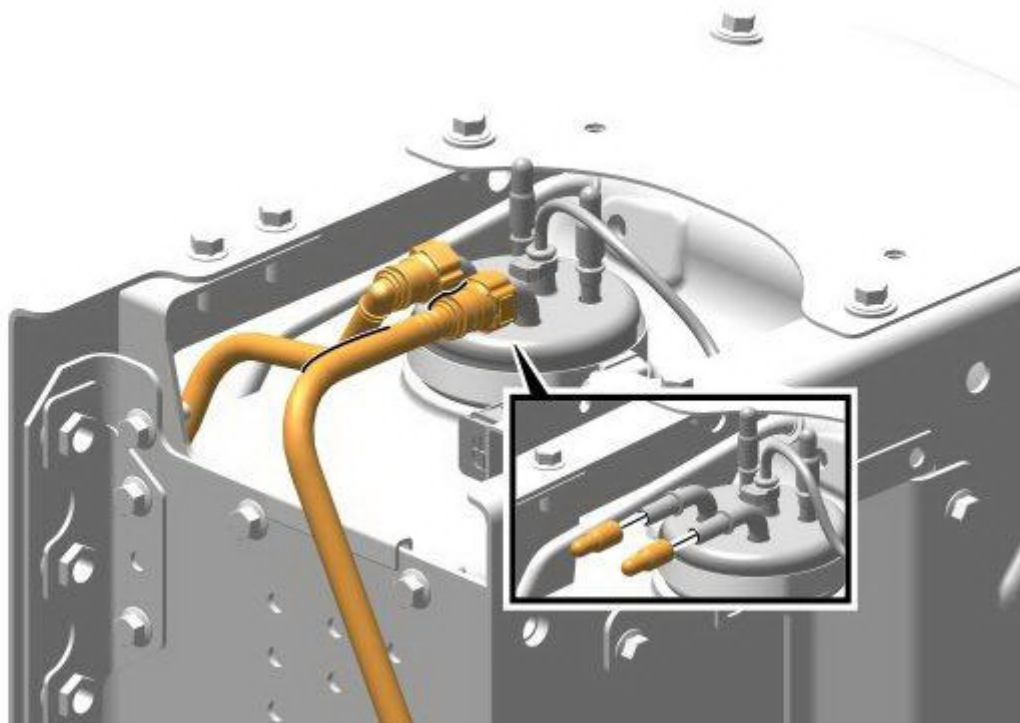
31. Remove the tank.



32. Disconnect the connectors.

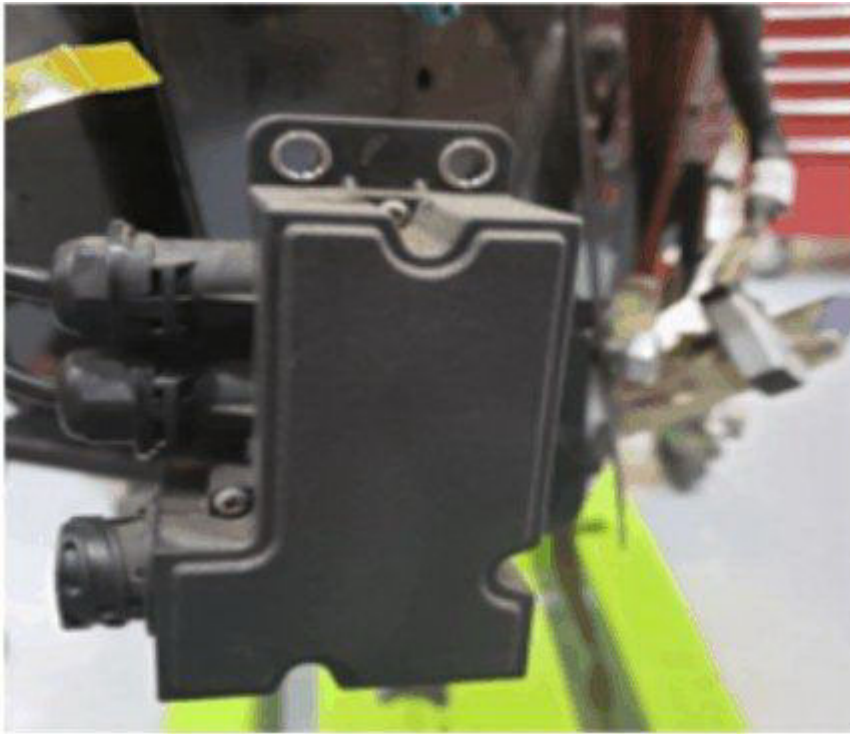
33. Move aside and cover hoses with bags.





34. Disconnect the electrical connector at the module.
35. Remove the four bolts securing the UQLS module.
36. Remove the ties securing the sensor tubes.





- 37. Loosen the clamp holding in the sensor.
- 38. Remove the level sensor.



- 39. Install the new sensor **24383068**.

Note: The new UQLS sensor no longer uses the external module and requires a jumper harness.

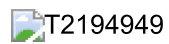
- 40. Install the clamp.

Tightening torque

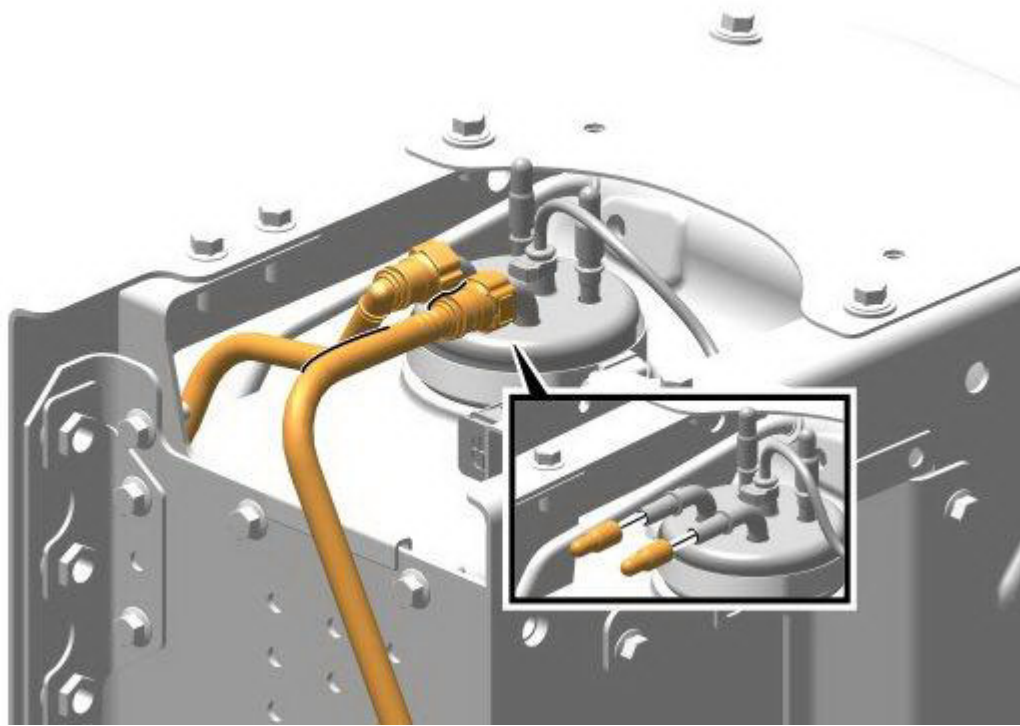
41. Remove existing bracket.



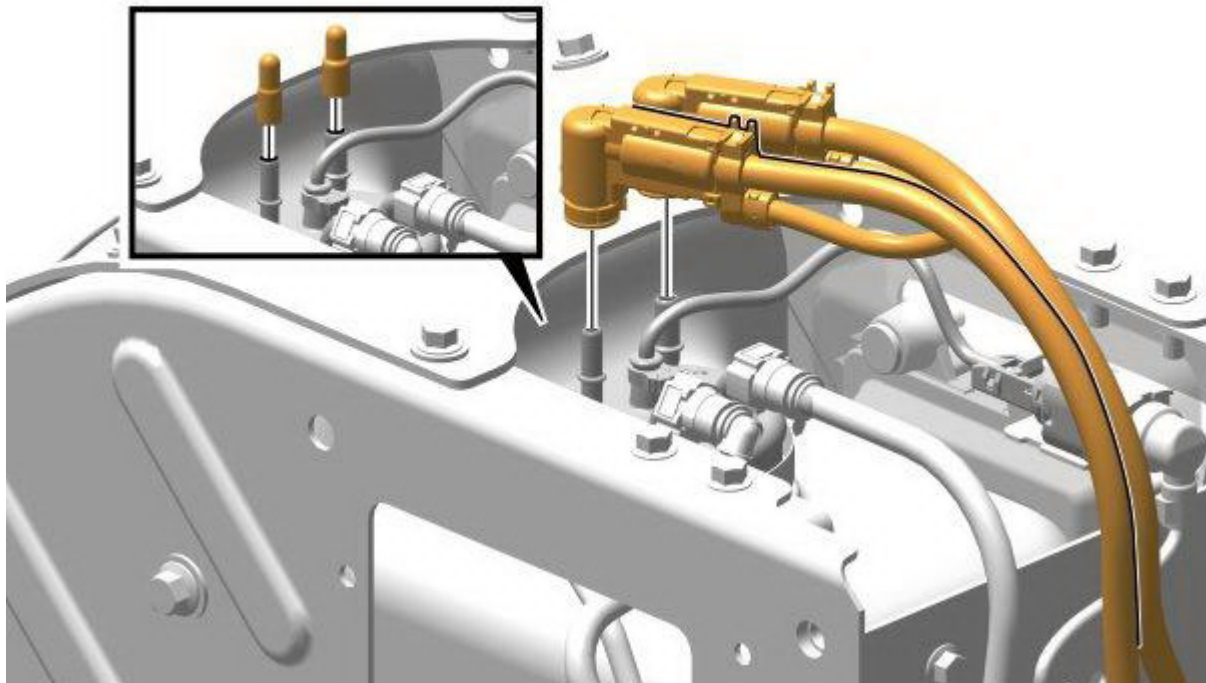
42. Install the new bracket **23933365** or **23933361** depending on the Battery Box position. (See note under parts).



43. Remove the bags and connect the coolant lines.



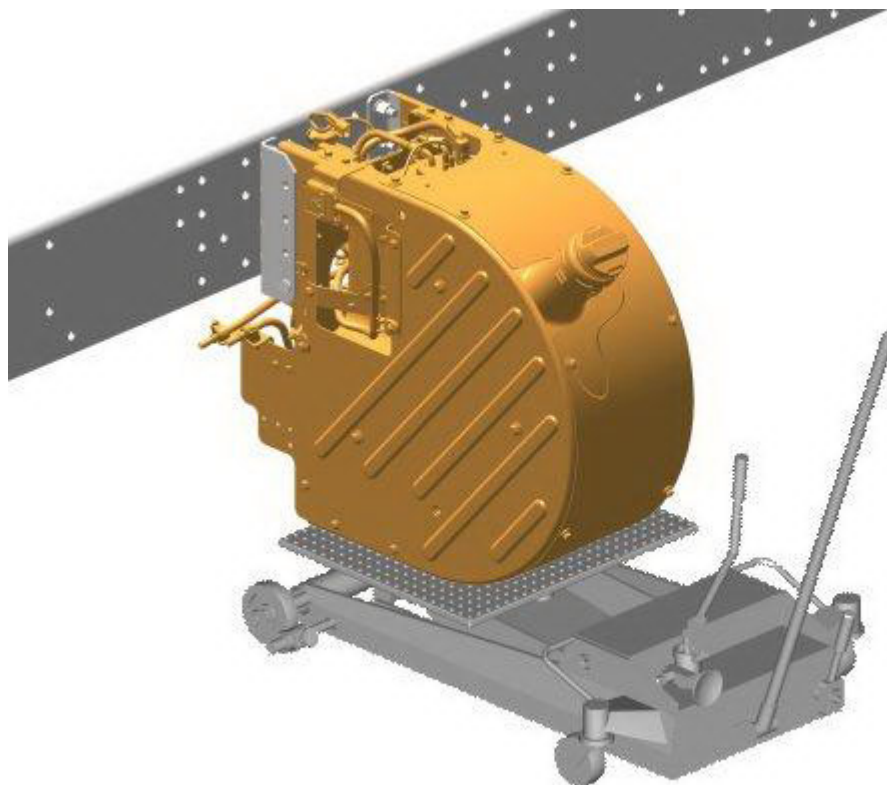
44. Remove the bags and connect the DEF lines.



45. Connect the jumper harness **24399920** to the new sensor routing it down to the DEF harness and connect to the original connector.



46. Secure the jumper harness connector to the bracket using cable ties.
47. Secure the DEF lines to the bracket using cable ties.
48. Secure the jumper harness using cable ties.
49. Install the tank.

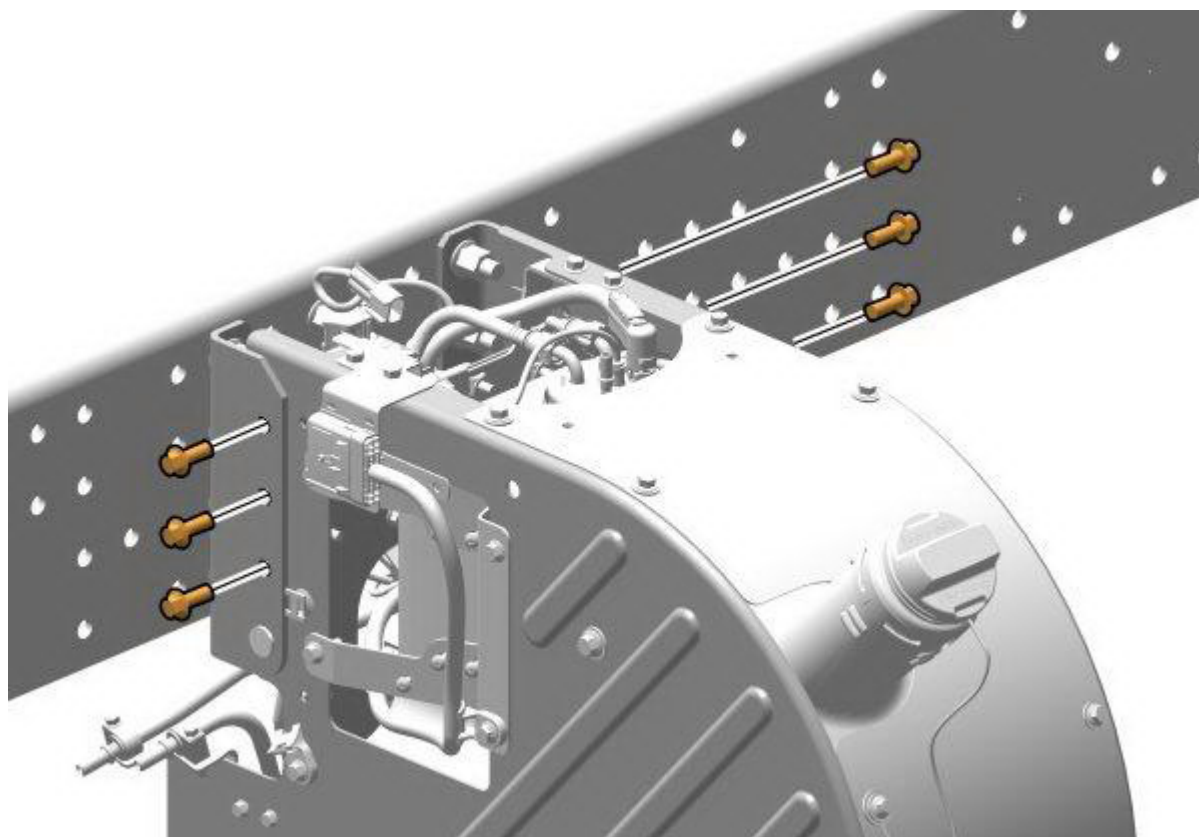


50. Install the screws.

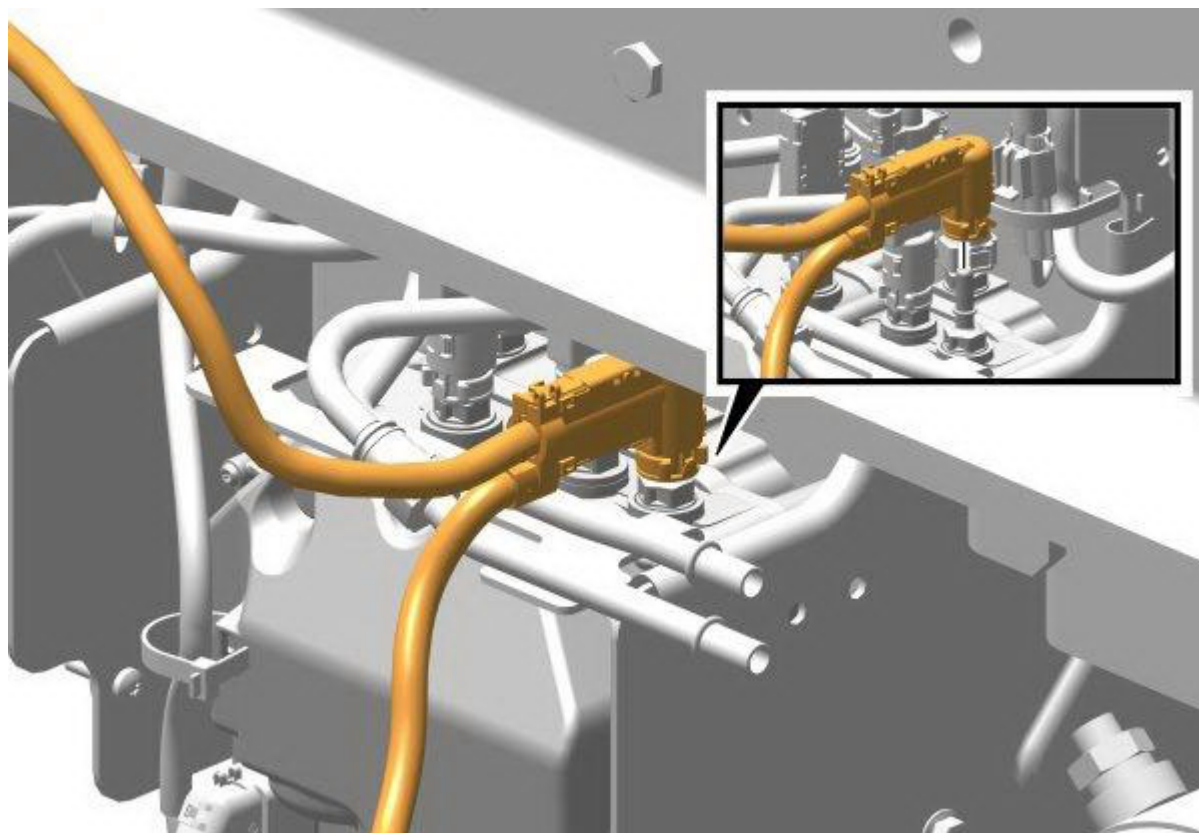
Tightening torque

Tank, bracket, screw

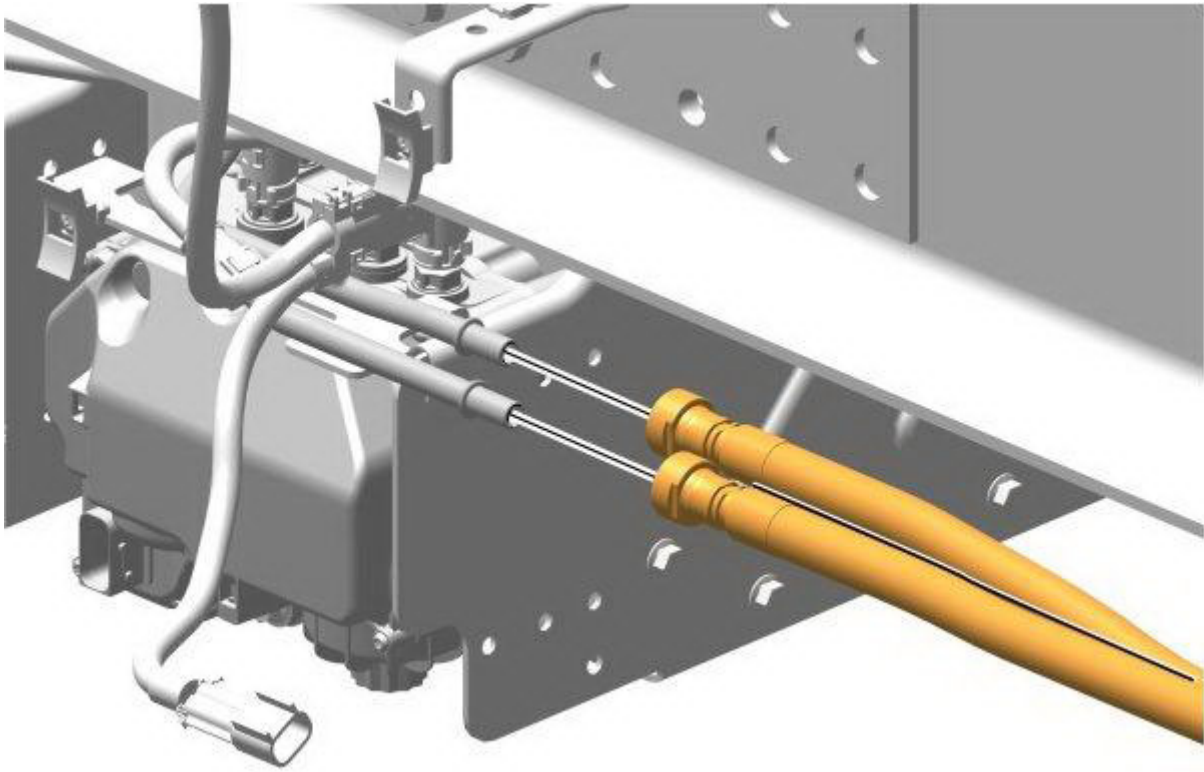
125± 20 Nm



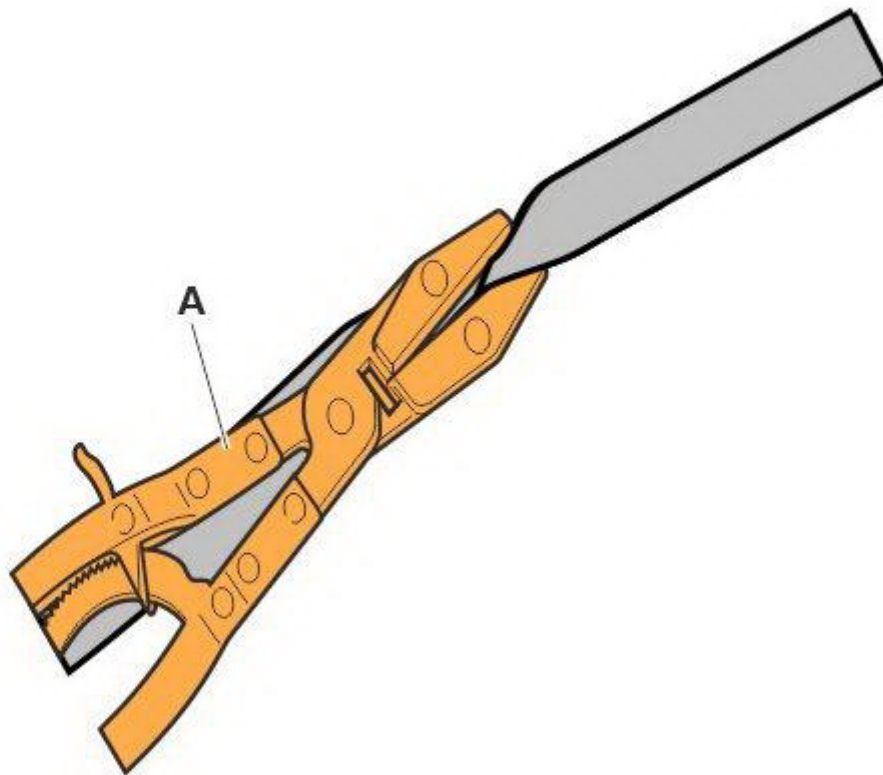
51. Remove the bag and connect the DEF line.



52. Remove the bag and connect the coolant lines.

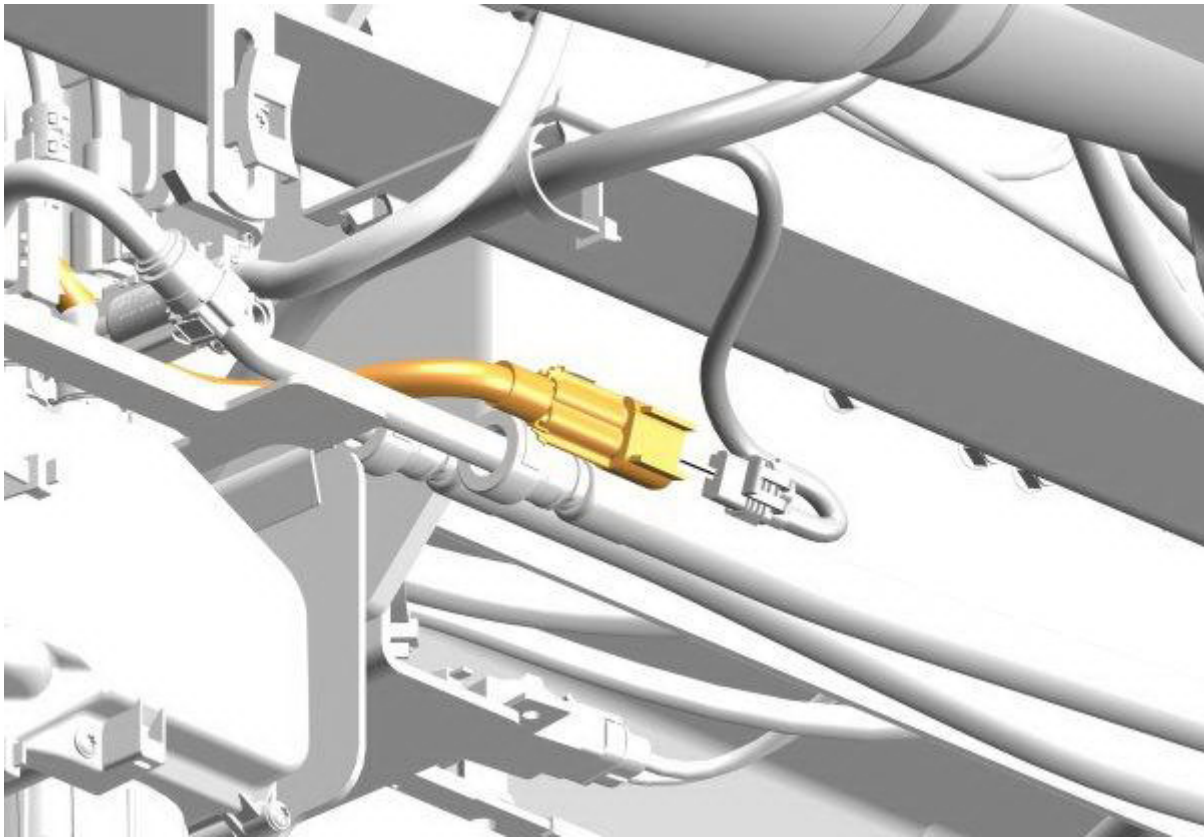


53. Remove the tool (A).



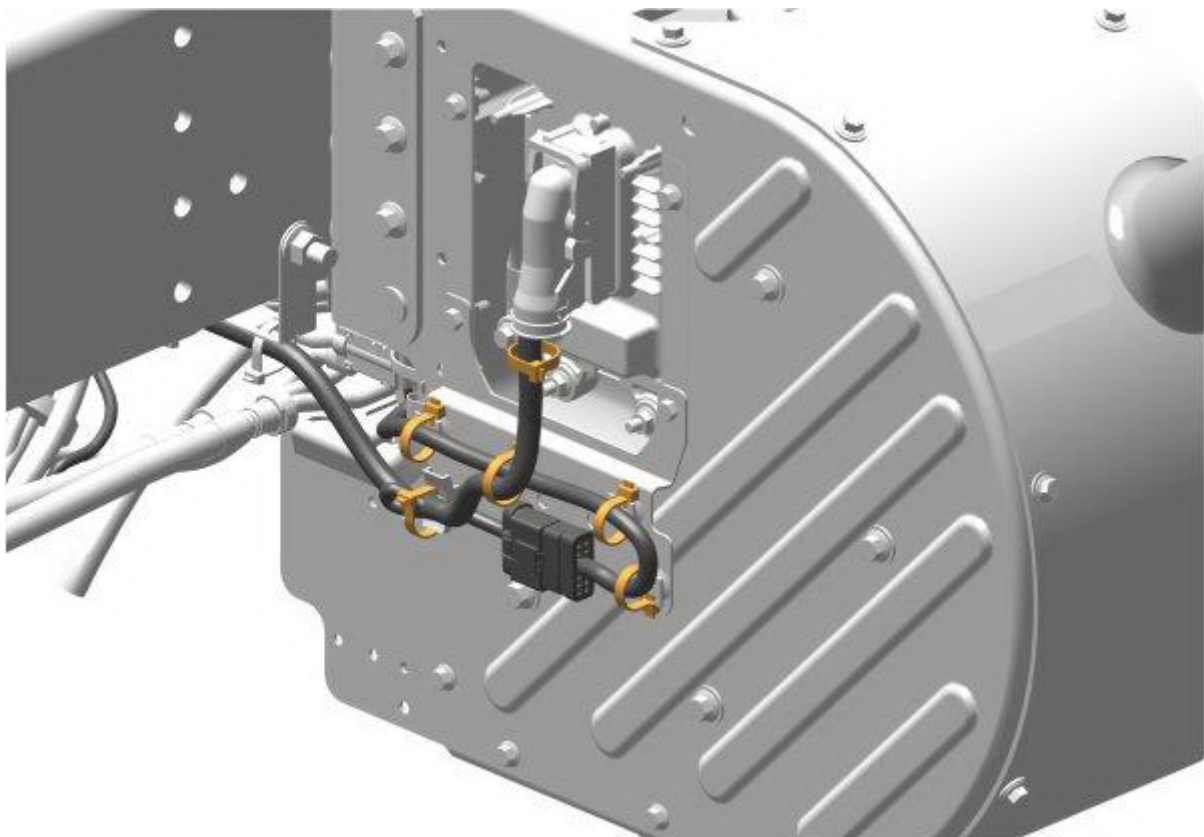
54. Connect the connector.

55. Remove the bag and connect the connector.

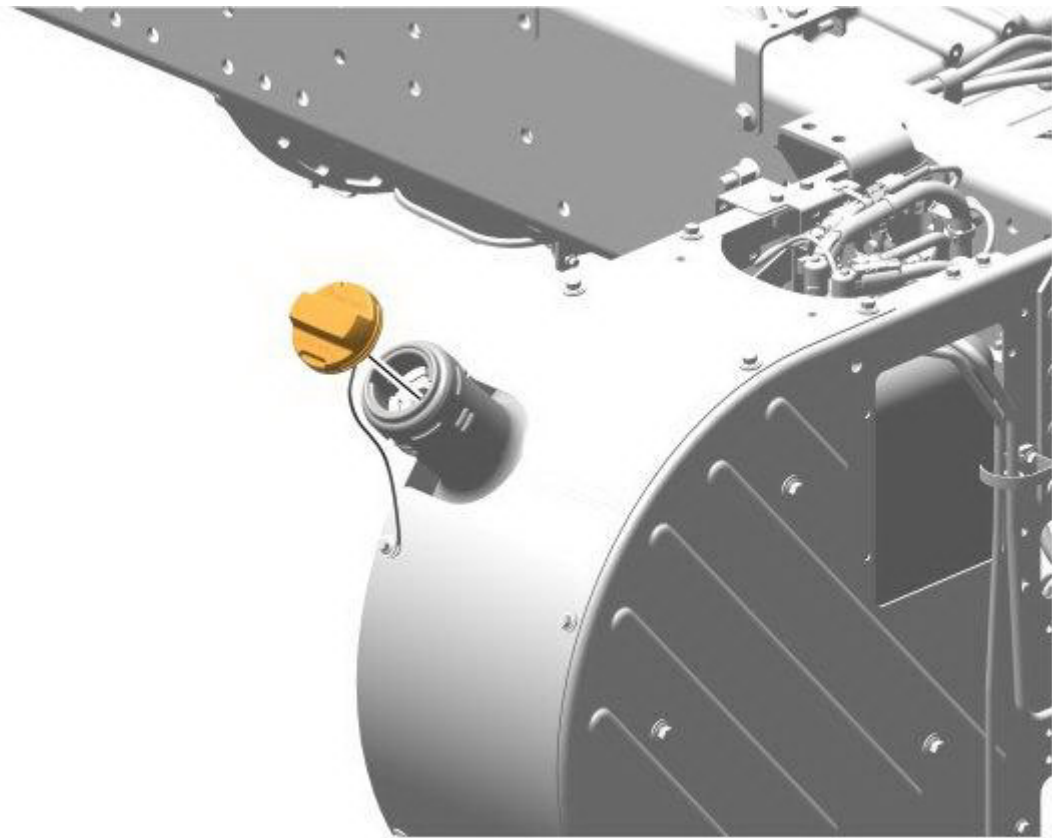


56. Secure using cable ties

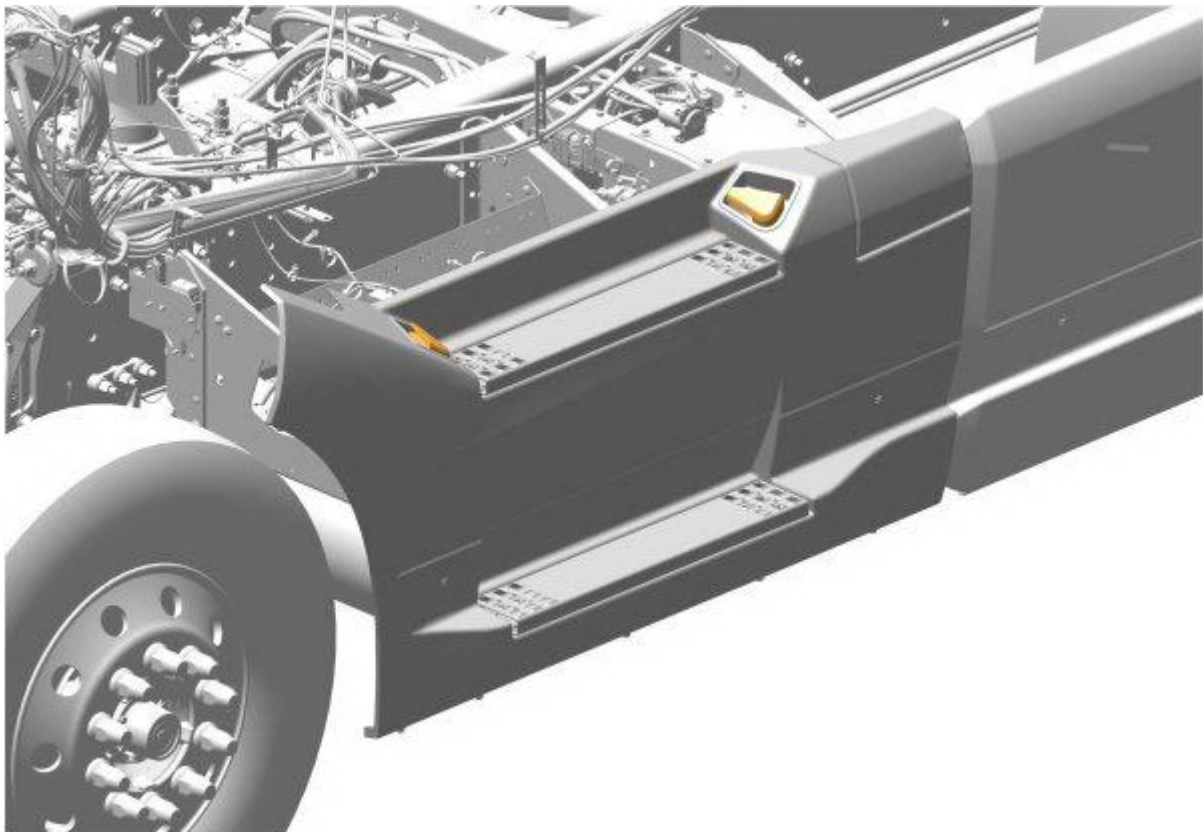
57. Connect the connectors and secure using cable ties.



58. Open the filler cap and fill with (Diesel Exhaust Fluid).



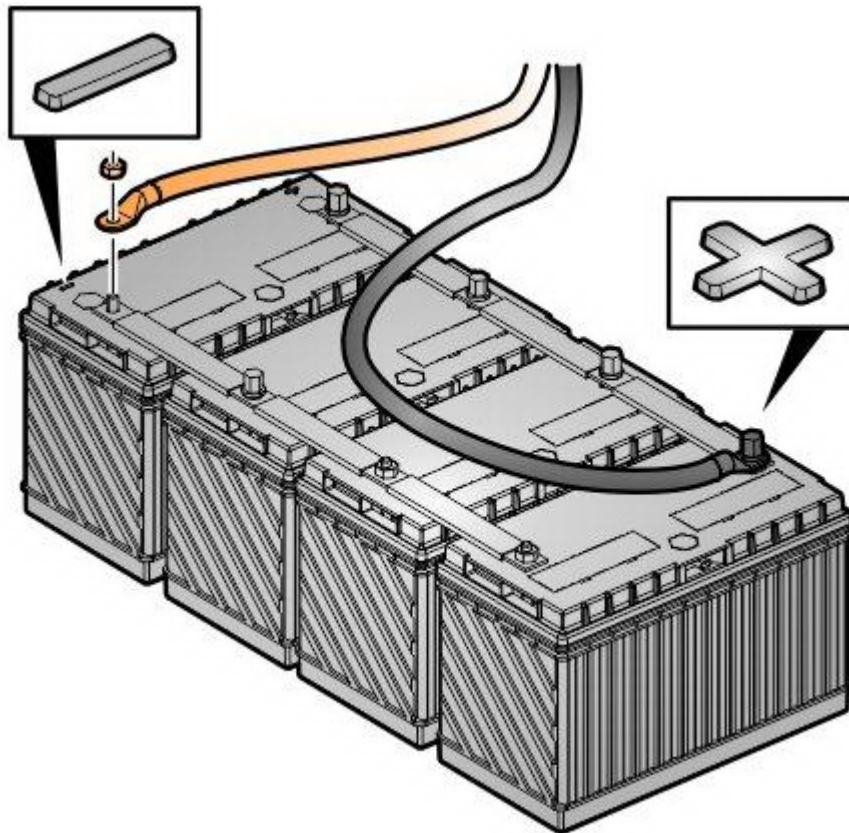
- 59. Install the filler cap.
- 60. Install the fairing.
- 61. Install the tether.



- 62. Fill with coolant.



63. Connect the cable to the negative terminal.

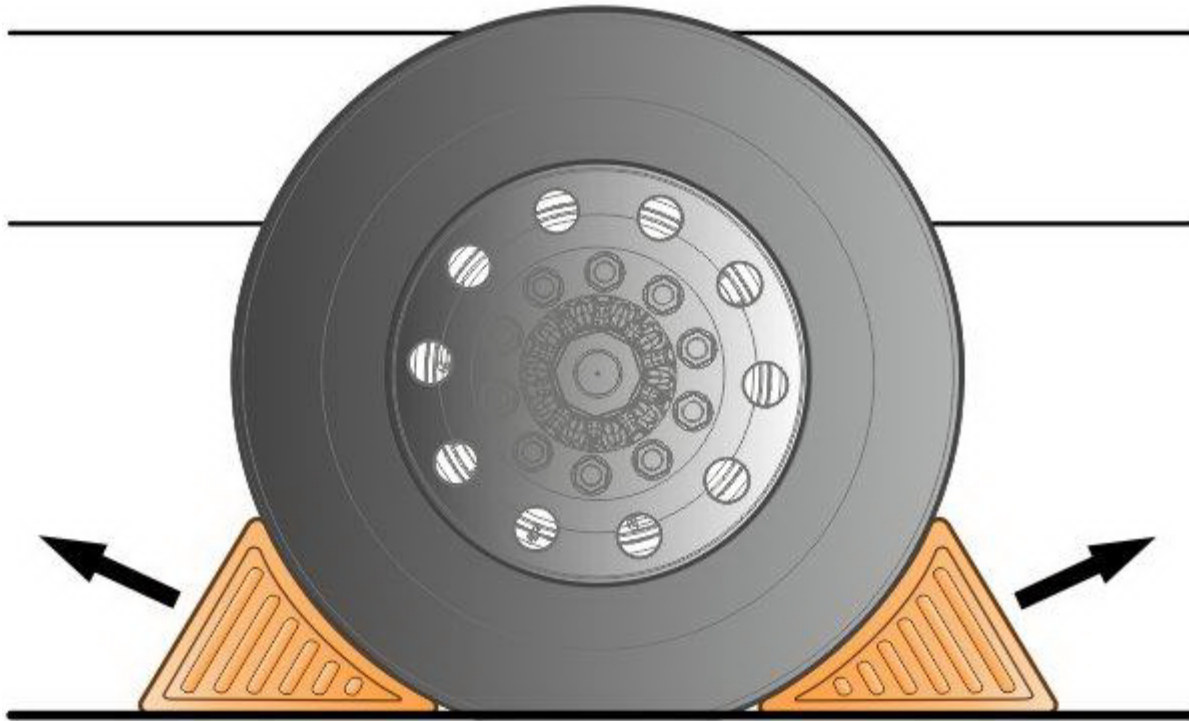


64. Connect to the truck using (PTT) Premium Tech Tool.

65. Run operation [17054-3 Accessory Kit, programming](#) in PTT under the program tab, to install the Accessory kit Part number **85158735**.

66. Start the engine and check for any leaks.

- 67. Check the coolant level.
- 68. Verify the DEF level is reading in the cluster.
- 69. Clear any fault codes.
- 70. Lower the hood
- 71. Remove wheel chocks.



- 72. Release the truck to service.

Warranty information

Reimbursement

<p>This repair may be eligible for reimbursement if a product failure was experienced within the time and mileage limits of the applicable Warranty coverage. Reimbursement is obtained via the normal claim handling process.</p>	<p>UCHP Reimbursement</p>
<p>Claim Type (used only when uploading from the Dealer Bus. Sys.)</p>	<p>W</p>
<p>Labour Code Aftertreatment Diesel Exhaust Fluid (DEF) Tank, Level Sensor, Replacement Accessory Kit, programming</p>	<p>2589-03-02-05 1700-22-03-06</p>

Issued by

