NOSTRUM
HIGH PERFORMANCE

4.0T Audi High Pressure Fuel Pump Kit Installation Guide

Part Sku#: L071-0510

WARNING! PLEASE FOLLOW ALL WARNINGS AND INSTRUCTIONS FOUND IN YOUR VEHICLE OWNERS MANUAL. THE FOLLOWING INSTRUCTIONS MUST BE READ AND FULLY UNDERSTOOD BEFORE BEGINNING INSTALLATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN VEHICLE DAMAGE, PERSONAL INJURY OR DEATH. IF THESE INSTRUCTIONS ARE NOT FULLY UNDERSTOOD, DO NOT ATTEMPT INSTALLATION.

Required Tools:

- Socket wrench
- 10mm socket
- 7mm socket
- 27mm socket
- 17mm wrench
- T25 torx
- 10 triple square
- Channel locks
- Needle nose pliers

Expendables:

- Absorbent Towels

1. Open trunk.

Figure 1

2. Lift trunk floor.

Figure 2

3. Undo tire restraint.

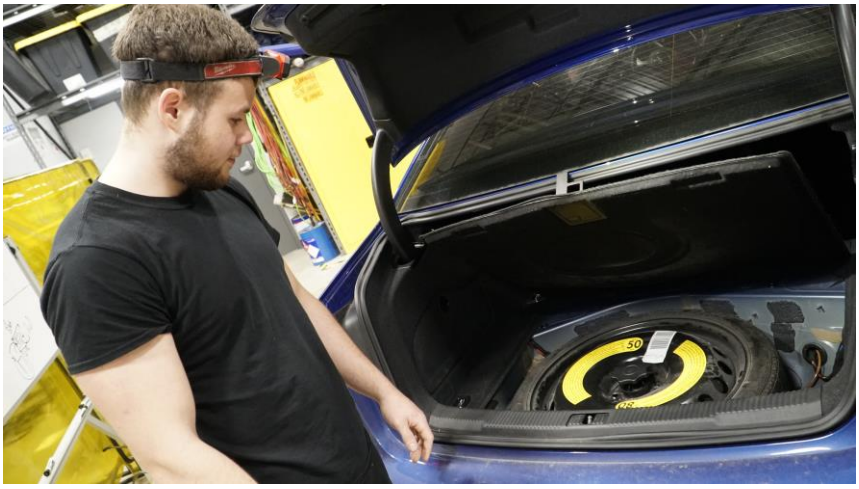

Figure 3

4. Remove spare tire.

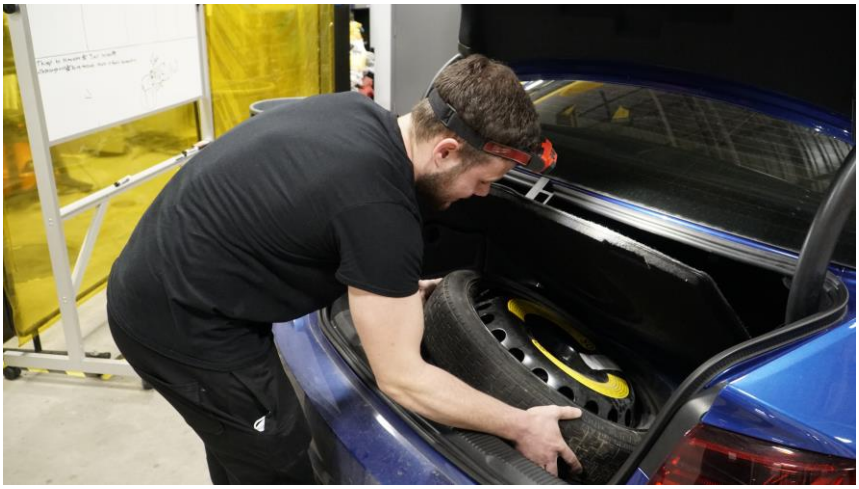

Figure 4

5. Remove foam tool holder.

Figure 5

6. Disconnect the negative battery terminal with a 10mm socket.

Figure 6

7. Remove the engine cover by lifting it off its rubber grommets by hand.

Figure 7

8. Loosen the air box hose clamps with a 7mm socket.

Figure 8

9. Remove hoses from aluminum intake

Figure 9

10. Depress tabs to remove airbox.

Figure 10

11. Lift out the airbox by pulling it away from the rubber gromets holding it in place.

Figure 11

12. Remove the drivers side fuel pressor connector on the high-pressure fuel pump (HPFP). This pump is located near the engine oil cap at the front of the engine.

Figure 12

13. Remove the driver's side connector off the HPFP's solenoid valve.

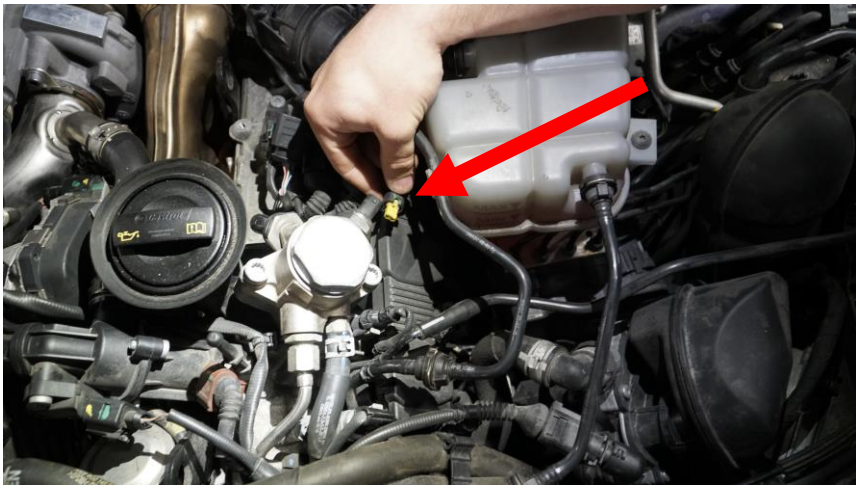

Figure 13

14. Use channel locks or pliers to remove the low pressure (LP) feed spring hose clamp on the driver's side fuel pump.

Figure 14

15. Remove low-pressure (LP) feed hose. Use absorbent towels to catch any fuel that leaves the line.

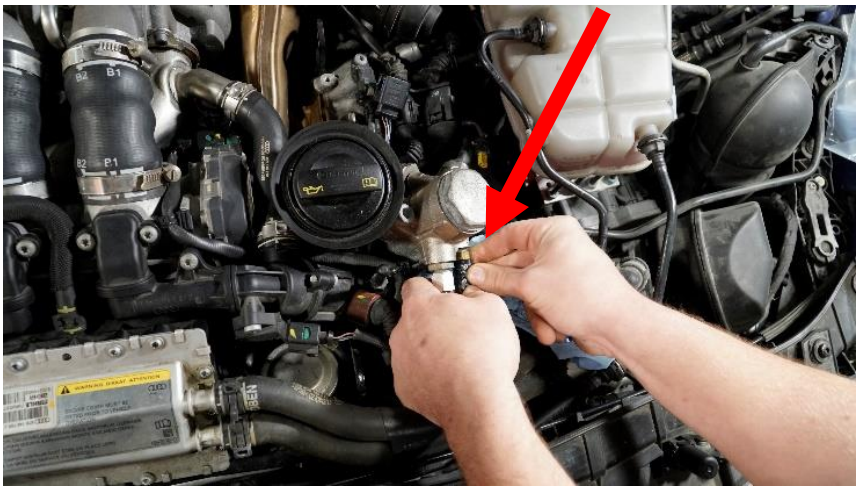

Figure 15

16. Use a 17mm wrench to remove the high pressure (HP) tube nut. Use absorbent towels to absorb fuel that may leak.

Figure 16

17. Use a 10-triple square to loosen the HPFP bolts. Make sure to alternate bolts loosening incrementally to prevent side loading the piston. Remove the pump from the engine bay.

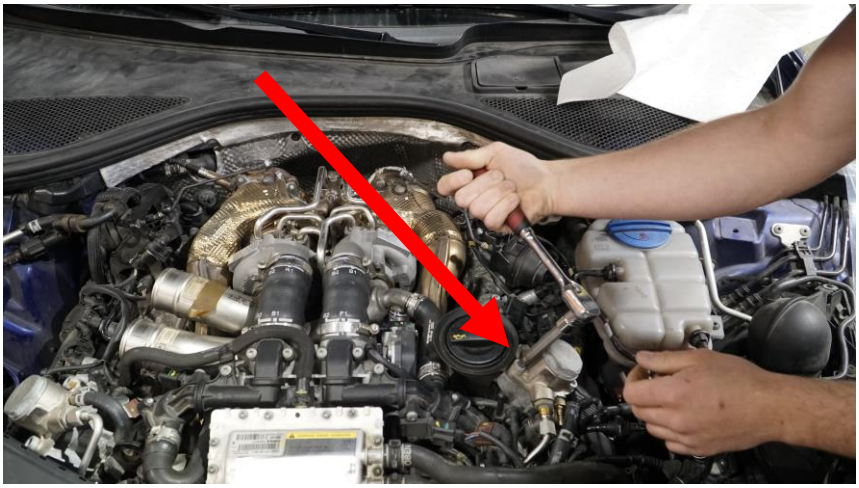

Figure 17

18. Use channel locks to remove low-pressure (LP) spring hose clamp on passenger-side fuel pump.

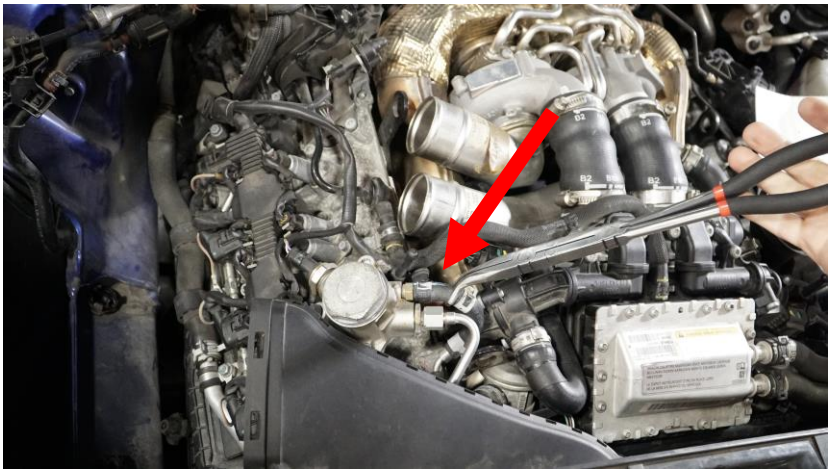

Figure 18

19. Use 17mm wrench to remove high-pressure (HP) fuel line on passenger-side. Use absorbent towels to catch any fuel that leaves the line.

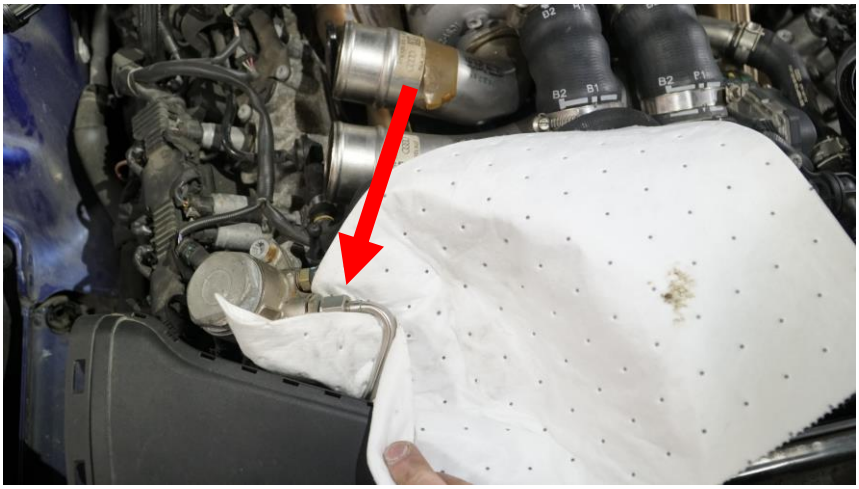

Figure 19

20. Use 10 triple square to loosen the high-pressure fuel pump's (HPFP) bolts.

Figure 20

21. Remove solenoid valve connector on the passenger side pump.

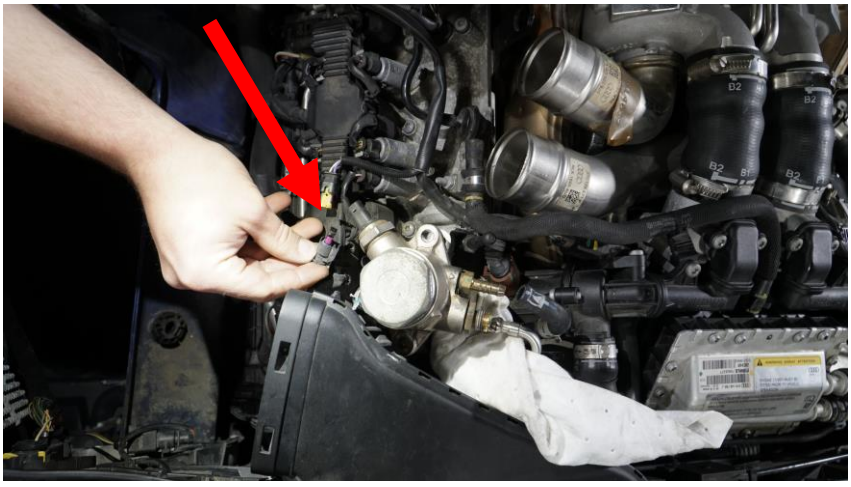

Figure 21

22. Remove low-pressure feed spring hose clamp on the passenger side HPFP using needle nose pliers.

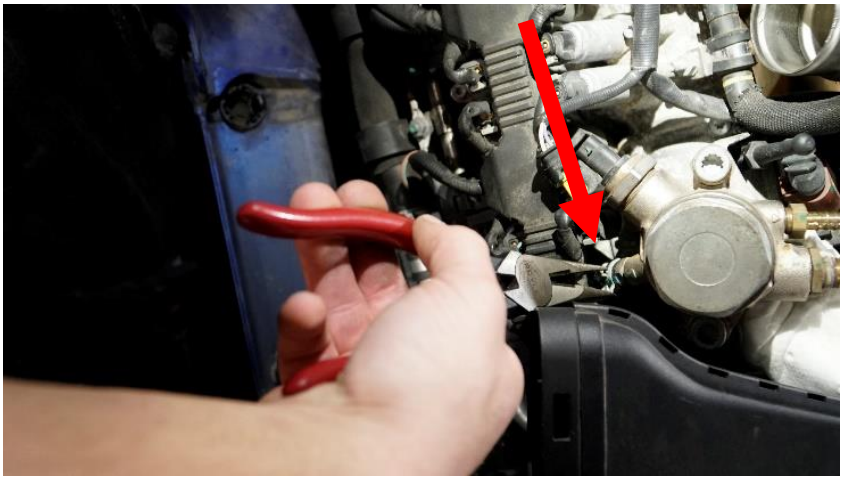

Figure 22

23. Remove the low-pressure feed to passenger side HPFP.

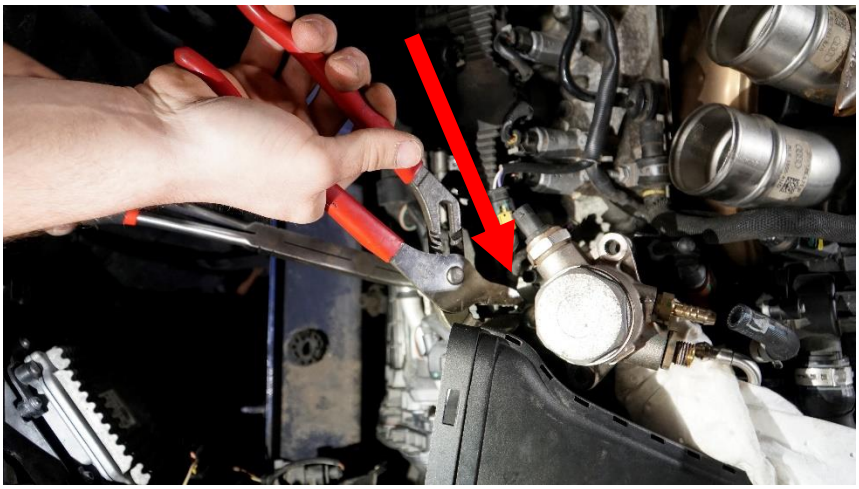

Figure 23

24. Remove the passenger-side HPFP.

Figure 24

25. Remove the pressure sensor from the stock pump with a 27mm socket.

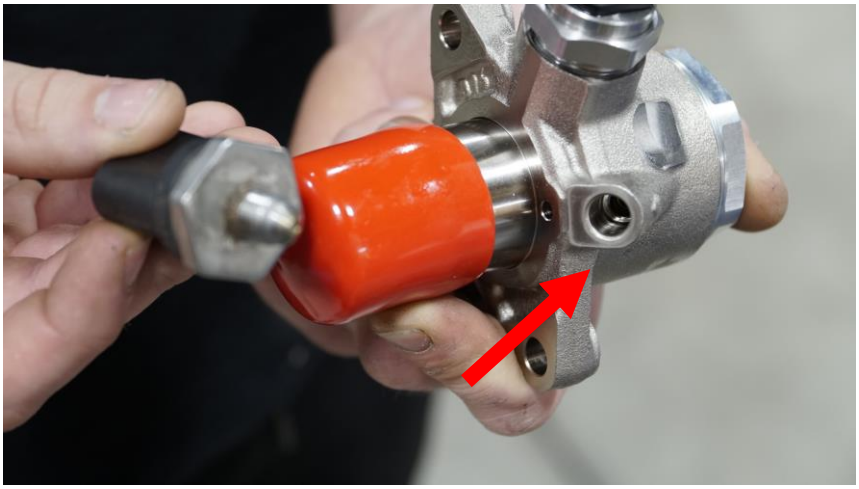

Figure 25

26. On the driver's side pump Install the pressure sensor from the stock pump onto the Nostrum pump with a 27mm socket to 15 Nm.

Figure 26

27. Install Nostrum plug onto the other Nostrum pump w/ 27mm socket to 15 Nm. This pump is meant for the passenger side location while the pump with the pressure sensor is meant for the driver's side.

Figure 27

28. Disconnect low-pressure feed from tank.

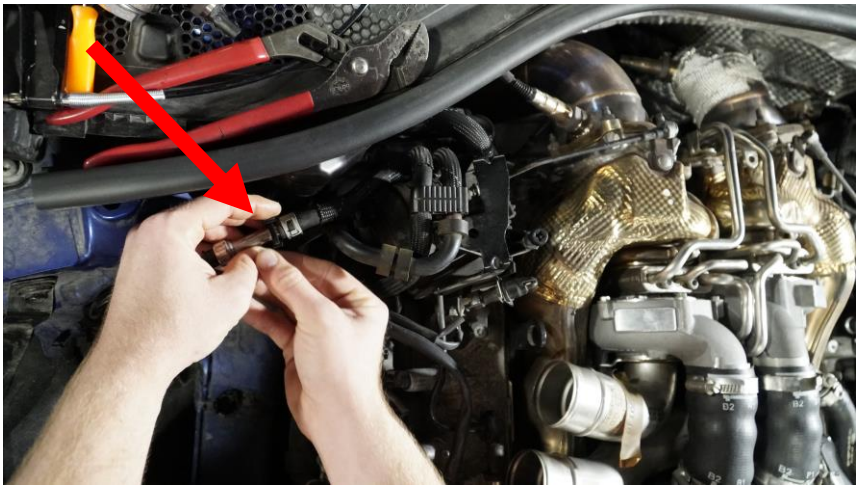

Figure 28

29. Cover ends of low-pressure (LP) lines.

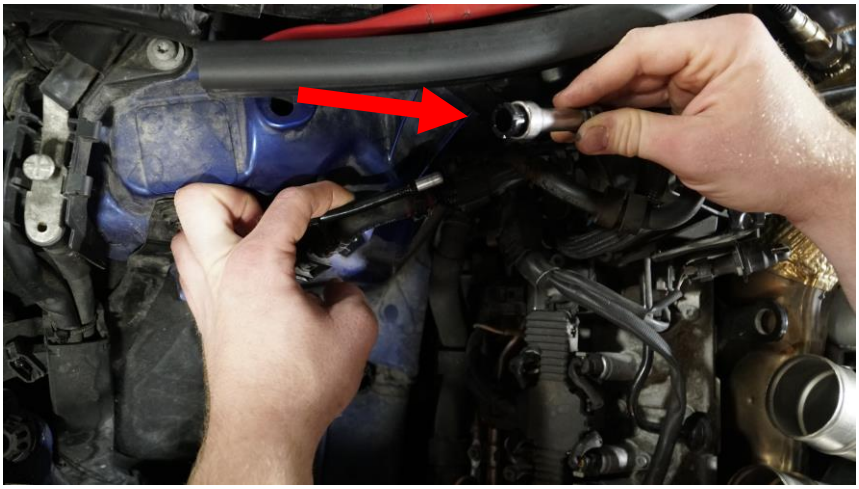

Figure 29

30. Blow compressed air though fuel lines to clear any fuel.

Figure 30

31. Either cut or remove stock rubber fuel lines going to HPFP's.

Figure 31

32. Installation of the passenger side fuel pump can begin.
33. Bolt the HPFP bolts to the flange surface. Align the HPFP so that the high-pressure fitting locates to the high-pressure tube. Torque the mounting bolts for the pump with a 10-triple square. Alternate bolts as you torque them down to avoid side loading the piston (Torque Spec: 20 Nm, 45 degrees).

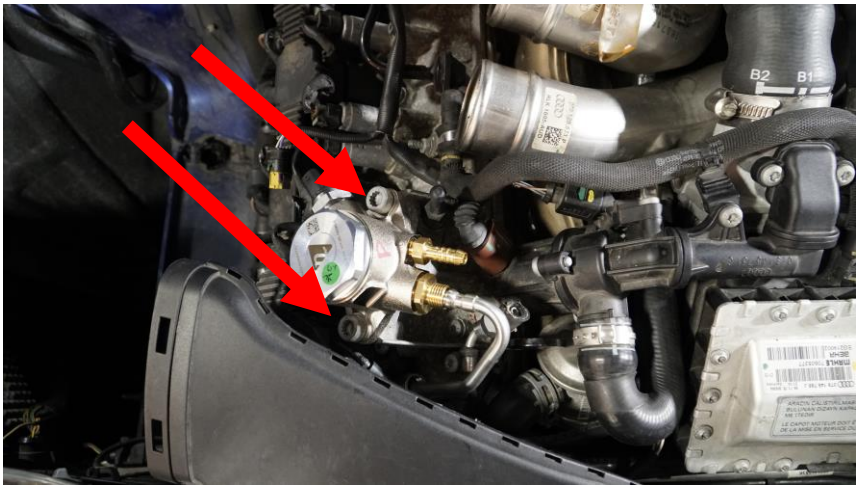

Figure 32

34. Plug in the solenoid valve electrical connector.

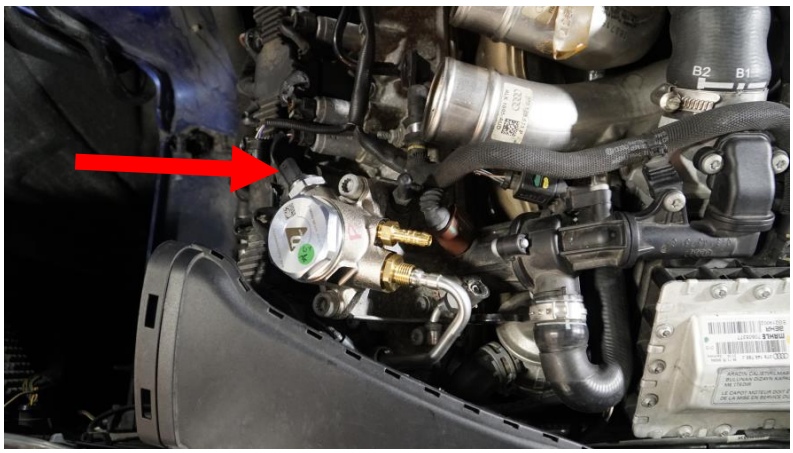

Figure 33

35. Align the HP tube, torque the compression nut with a 17mm wrench. (Torque Spec: 25 Nm)

Figure 34

36. Now install the driver's side fuel pump by aligning the HPFP with the pressure sensor on the mounting location and make sure the HP fitting is aligned with the HP tube. This may require rotation to fit.
37. Torque down the mounting bolts with a 10-triple square socket alternating bolts as you go as done on the passenger side pump. (Torque Spec: 20 Nm, 45 degrees).

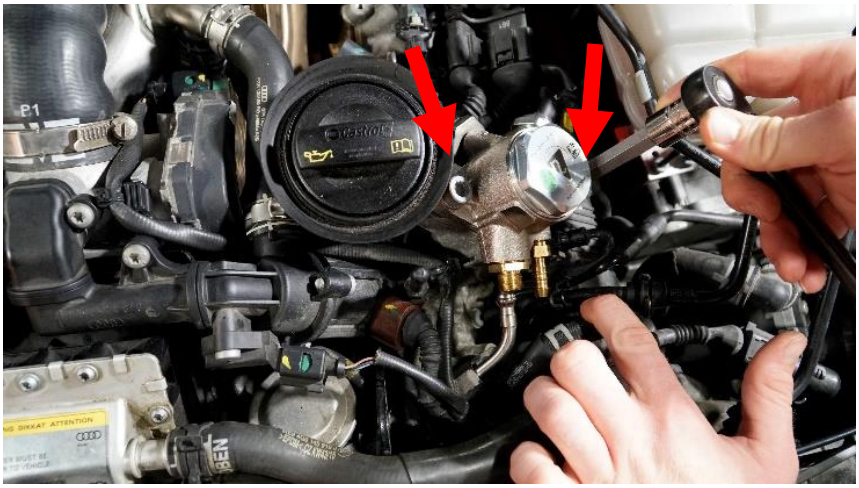

Figure 35

38. Connect the HPFP solenoid electrical connector.

Figure 36

39. Make sure the HP lines are aligned with the HP fittings on the HPFP. Torque the HP line nut to 25 Nm with a 17mm wrench.

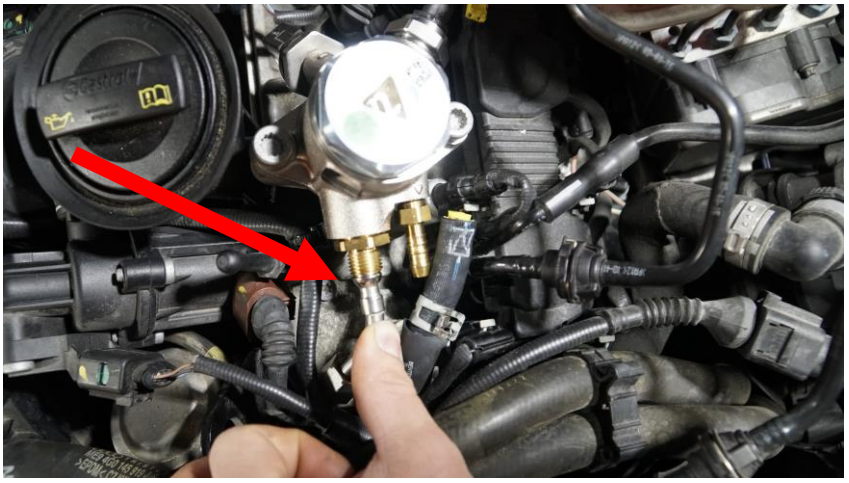

Figure 37

40. Connect the HP sensor to the electrical connector.

Figure 38

41. Installation of the ethanol sensor and the low-pressure lines can now begin. Unscrew the solenoid bolt at the back of the engine on the passenger side with a T25 Torx.

Figure 39

42. Install the pre-assembled ethanol sensor on the bracket with the solenoid bolt. Torque the solenoid bolt to 5 Nm.

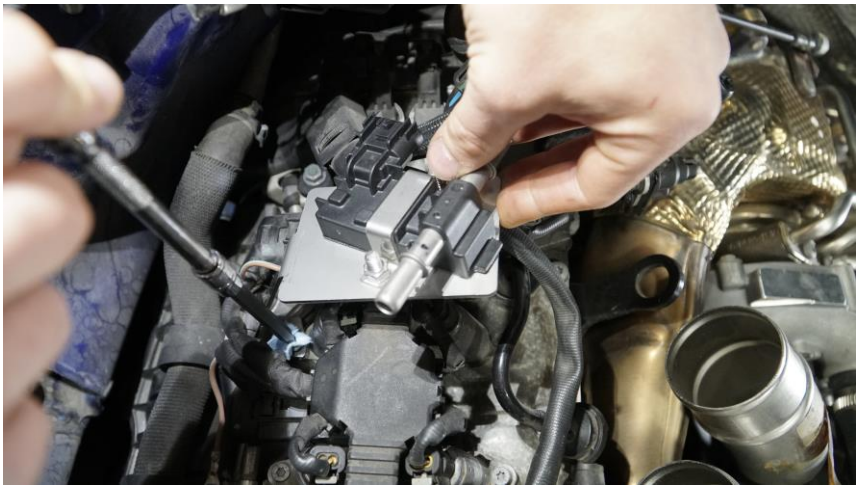

Figure 40

43. Connect the low-pressure fuel lines. Start by connecting the female 5/16” quick connect 45-degree elbow end of the low-pressure line to the male 5/16” end. This end leads to the fuel tank.

Figure 41

44. Connect the 3/8” quick connect 90-degree elbow to the male quick connect on the E85 sensor. Make sure to connect the line to the male connector that faces the cabin of the vehicle.

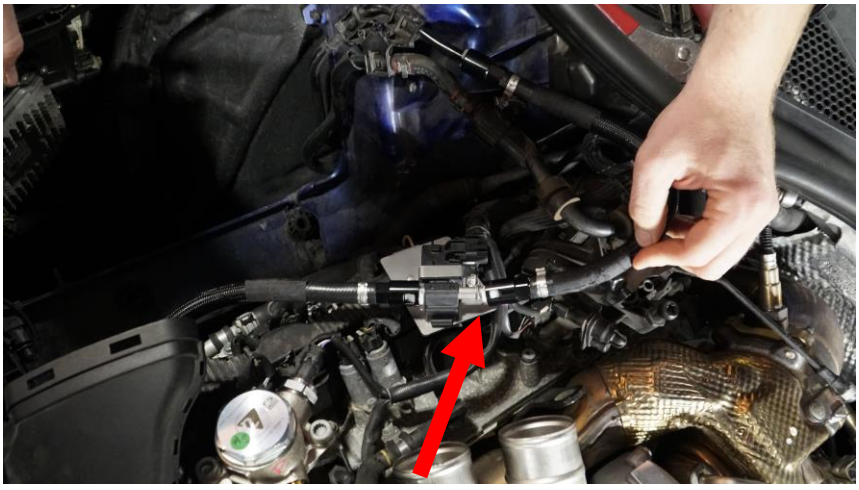

Figure 42

45. To connect the Y split low pressure line, begin by connecting the 3/8” quick connect end of the Y split to the E85 sensor.

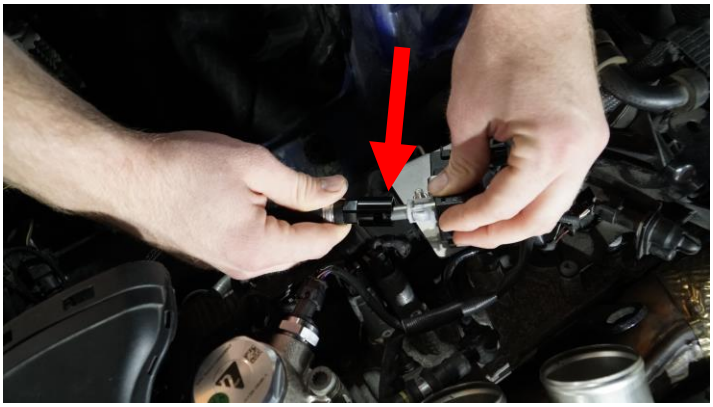

Figure 43

46. Once the Y-split line is connected to the E85 sensor feed the Y-split underneath the airbox intake. Situate the Y-split fitting itself near the top of the intake so that it is not contacting the airbox intake or any hard lines near it. Ensure the short line is facing above the other so that it can be connected to the passenger side fuel pump nearby in upcoming steps.

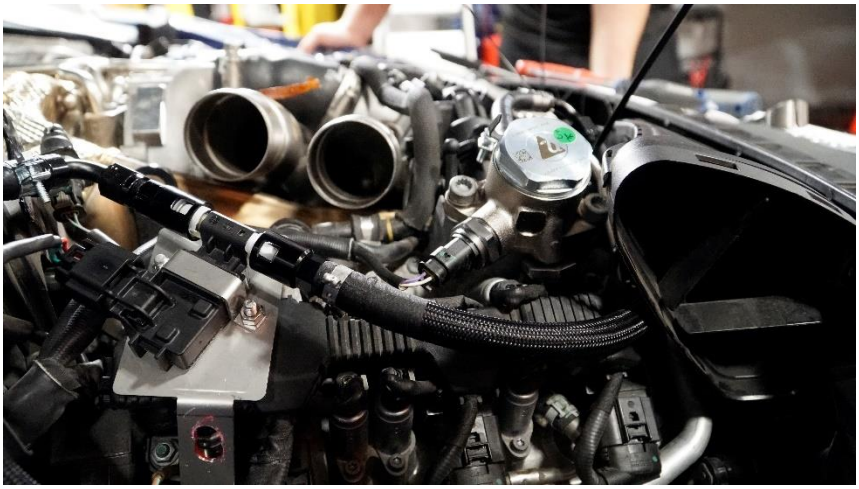

Figure 44

Figure 45

47. Place a hose clamp over each open section of the low-pressure line coming off the Y-split.
48. Place the low-pressure lines onto the barb fittings on the pump. Place the shorter line onto the passenger side pump barb and the longer line onto the driver side pump.

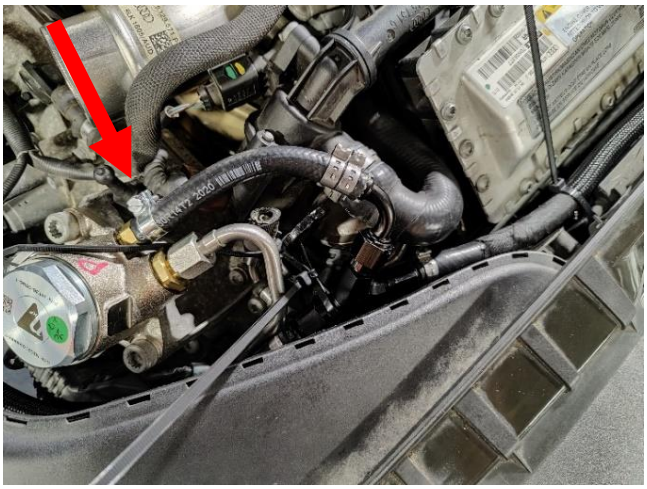

Figure 46

49. Tighten down the hose clamps over each barbed fitting with a 7mm socket.

Figure 47

50. Place the hose clips at the positions pointed out in the images adjacent and below. This will help secure the hose and prevent excessive motion of the low-pressure lines.

Figure 48

51. Make sure all AN fittings on low-pressure lines are tightened to a snug fit once they have been installed in the vehicle.

Figure 49

52. Once the low-pressure lines and Nostrum fuel pumps are installed, reinstallation of all remaining components can begin. Follow the steps of disassembly listed above in reverse to re-install components. Start with step 13. Follow all Torque specs that are included in each step where applicable. If torque spec is not included in a step where it seems applicable assume snug fit with a wrench or socket wrench.

Hardware installation is complete.

First Start-Up

1. Be sure to remove all installation tools and loose items from the engine compartment. Follow good, safe
practices when working on your vehicle. Be sure to reassemble all parts and components according to your OE maintenance manual.

2. Key cycle the vehicle into the "Accessory On" position (do not go to Ignition position). The low- pressure fuel pump with activate and the low-pressure side of the pump will pressurize. Check the high-pressure fuel pump and the low-pressure side for leaks. If OK, proceed to step 3.

3. Key cycle to ignition and let the car attempt several start cycles. Remember that the fuel lines, pump and part of the fuel rail are filled with air, therefore this step is necessary to evacuate that air and get the system charged. If it starts, OK. If it does not, key off the vehicle. Check the high- pressure lines to the fuel rail, to the pump and the pump itself for leaks. If OK, proceed to step 4.

4. Key cycle one more time all the way to ignition. Engine should start-up and idle. If not, proceed with steps 2-4 again.

5. Let the car idle for a few minutes. Check for leaks on low and high-pressure portions again.

6. Installation is complete! **Time for a Tune!!**

NOTE: a fault code may appear at the first key cycle due to the long ignition time or the low pressure in the fuel rail, both due to the air in the fuel system.
This code should self-clear after the OEM defined quantity of key cycles.

NOTE: After driving the car and letting it cool, next day, check for fuel leaks again (from thermal expansion and contraction). Retighten fittings if needed.

For additional technical & software support please contact:

Email: support@nostrumshop.com
Phone: 734-548-8677 (during normal business hours)

Revision	Notes	Date
Rev 1	Production Release	11/24/21