



INFINITI Q50/Q60

LPFP UPGRADE

The Red Alpha LPFP an E-85 compatible upgrade that should be performed in tandem with the Red Alpha High Pressure Fuel pump.

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Introduction

The goal of Alpha Performance is to provide the highest quality, best performing products available. By utilizing research and development, and rigorous testing programs Alpha Performance will never compromise the quality or performance of our products. In addition, Alpha Performance will only provide the finest customer service, offering only parts and advice that are in the best interest of the customer. Alpha Performance was built on a foundation of integrity. This is who we are; this is what you can count on.

A vehicle modified by the use of performance parts may not meet the legal requirements for use on public roads. Federal and state laws prohibit the removal, modification, or rendering inoperative of any part or element of design affecting emissions or safety on motor vehicles used for transporting persons or property on public streets or highways. Use or installation of performance parts may adversely affect the drivability and reliability of your vehicle, and may also affect or eliminate your insurance coverage, factory warranty, and/or new OEM part warranty. Performance parts are sold as-is without any warranty of any type. There is no warranty stated or implied due to the stresses placed on your vehicle by performance parts and our inability to monitor their use, tuning, or modification.

These instructions are provided as a guide only as there are many variables that cannot be accounted for concerning your particular vehicle, including but not limited to model year differences, model differences, the presence of non-OEM parts, and modifications that may already be or were previously installed. A basic knowledge of automotive parts and systems is helpful but a better understanding of the parts and systems on your particular vehicle may be required.

If you have any questions or issues at any time during the installation of your Alpha Performance product(s), please call us for technical assistance. The Alpha Performance tech line can be reached during business hours at 847-709-0530 for Alpha Performance products only.

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Notes: The installation instructions performed here were done using a 2017 Q60 RS400. Depending on your model and trim level, some steps will vary. There will be component differences between the model and trim levels but the same basic installation procedure still applies. Removal and installation of Low Pressure Fuel Pumps and components are to be performed by a qualified motorsports technician in a well ventilated environment.

DANGER!

- Risk of explosion caused by fuel igniting.**
- Risk of poisoning caused by inhaling and swallowing fuel.**
- Risk of injury to eyes and skin caused by contact with fuel.**

WARNINGS!

- No Fires, sparks, open flames, or smoking.**
- Pour fuels into suitable and appropriately marked containers only.**
- Wear protective clothing when handling fuel.**

Fuel Pressure Relief:

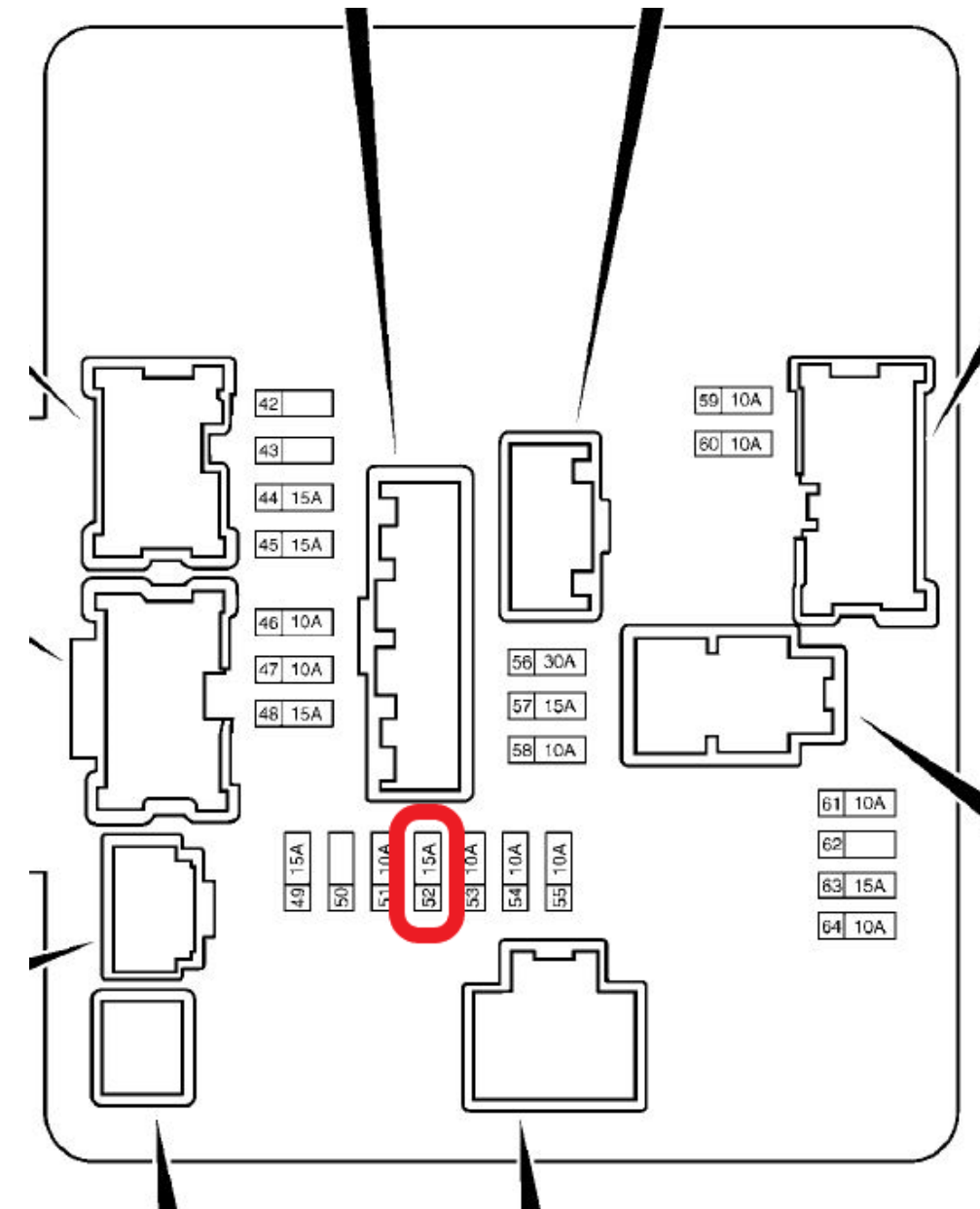
When working with fuel related components, it is highly recommended to perform tasks on a vehicle that is completely cooled down. Working with a vehicle that is near or at operating temperature increases the risk of fuel-related fire/explosion/personal injury. Pressure relief of the low pressure and high pressure fuel system is required. Steps can be taken to relieve pressure from the fuel system with or without using the factory CONSULT Tool. Please review the following procedure on relieving the fuel pressure in the fuel system.

WITH CONSULT

1. Turn ignition switch ON.
2. On CONSULT screen, select "ENGINE" >> "Active Test" >> "FPCM".
3. Start engine.
4. After engine stalls, crank it two or three times to release all fuel pressure.
5. Turn ignition switch OFF.

WITHOUT CONSULT

1. Pull out 15A fuse (No. 52) from IPDM located in the engine compartment.
2. Start engine.
3. After engine stalls, crank it two or three times to release all fuel pressure.
4. Turn ignition switch OFF.

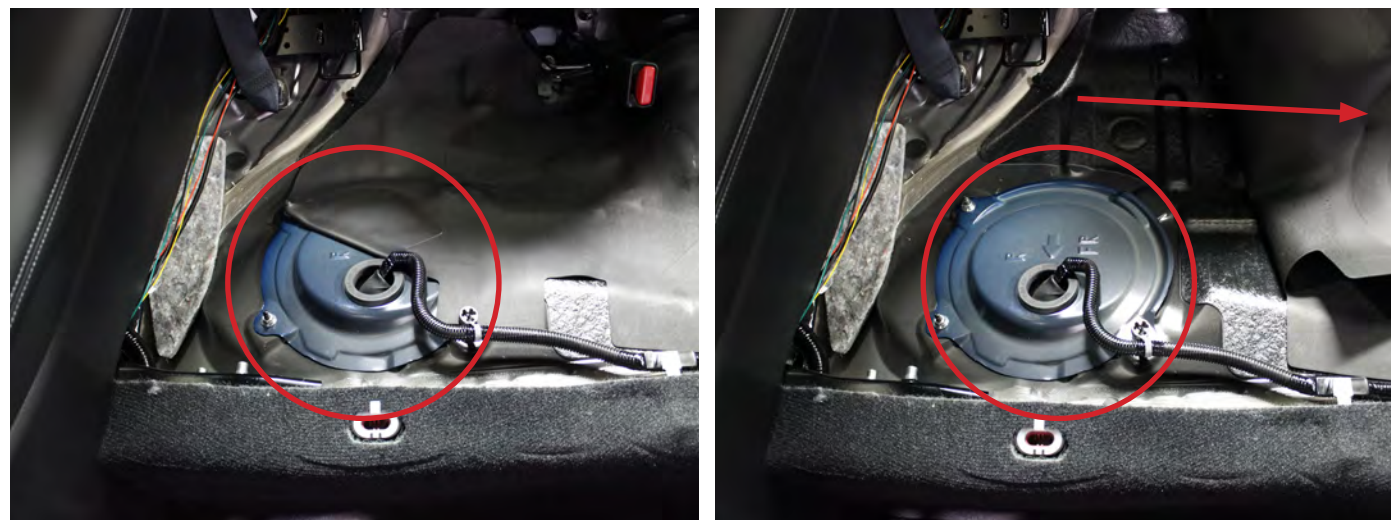


Removal

01. Remove the rear seat bottom cushion. The seat is released by lifting the front portion of the seat upwards in the locations shown in the pictures below. Remove the seat cushion from the vehicle.



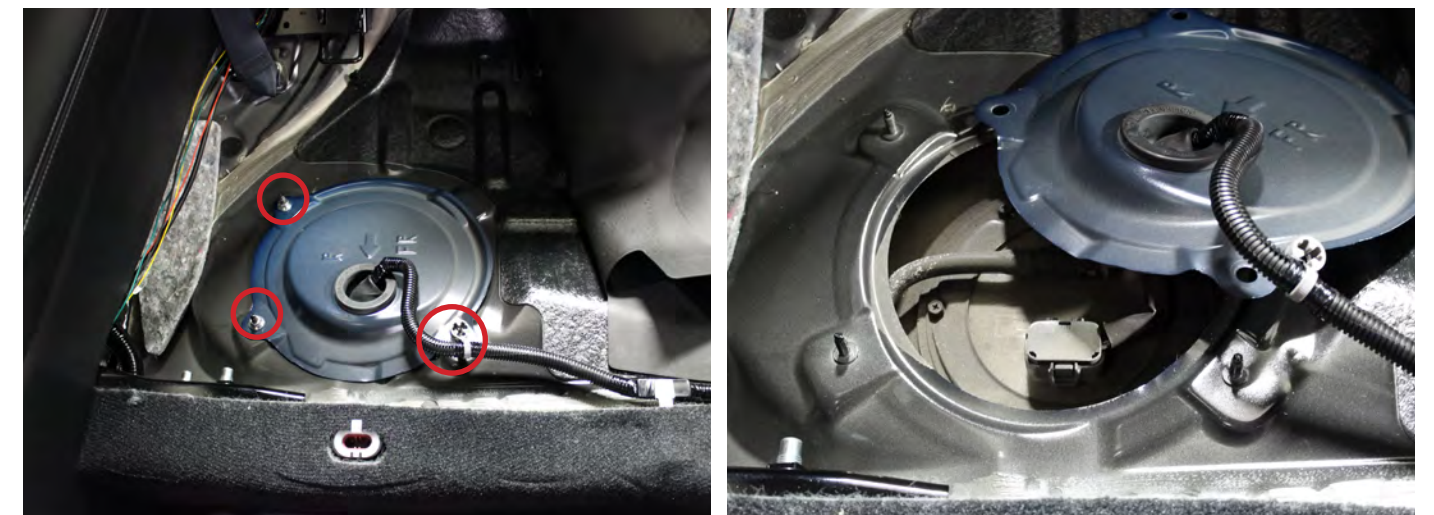
2. With the seat cushion removed, locate the fuel pump sending unit cover on the right hand side of the vehicle. Pull back and move the sound deadening cover to the side.



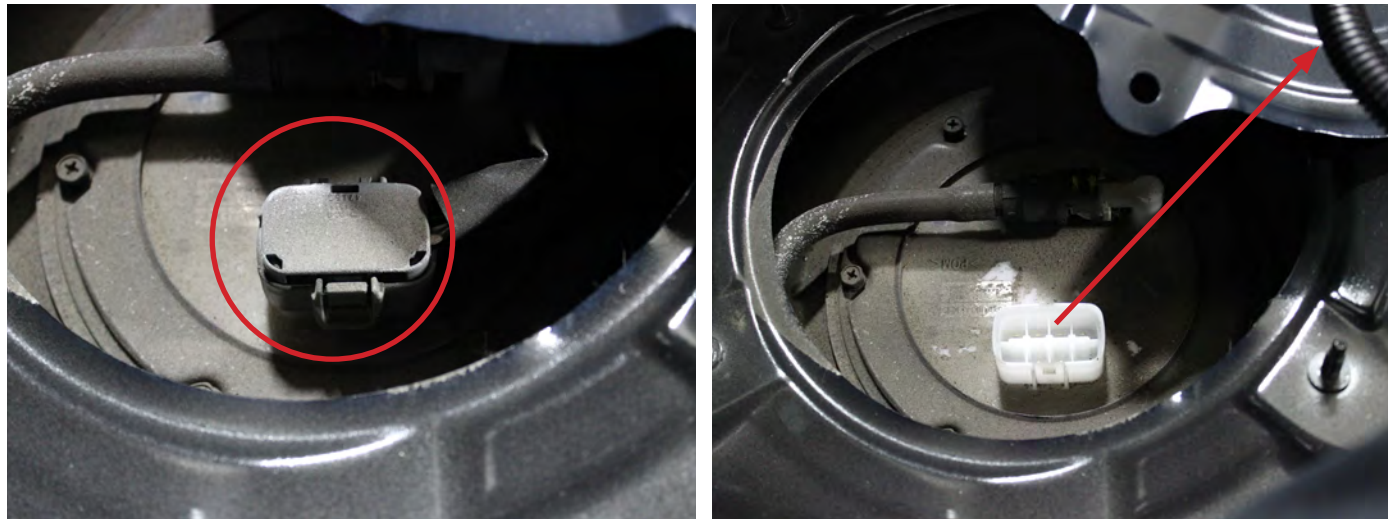
3. Release the clip securing the fuel pump wiring harness.



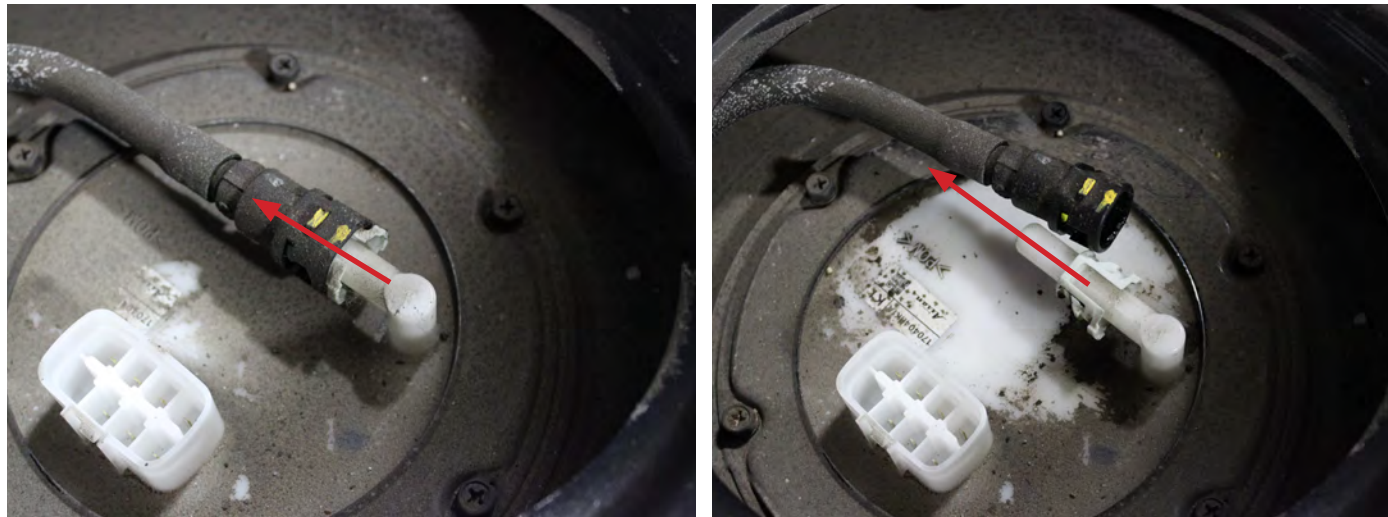
4. Remove the fuel pump sending unit cover by removing 3 - M6 nuts (10mm wrench).



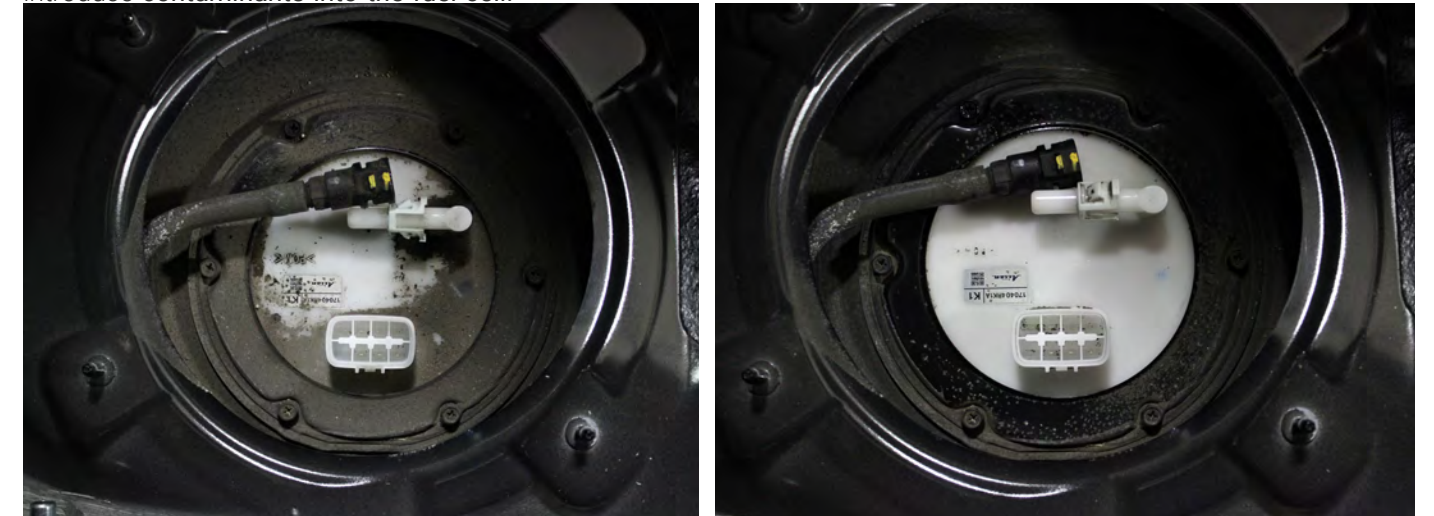
5. Disconnect the fuel pump wiring harness from the sending unit and move sending unit cover and harness to the side.



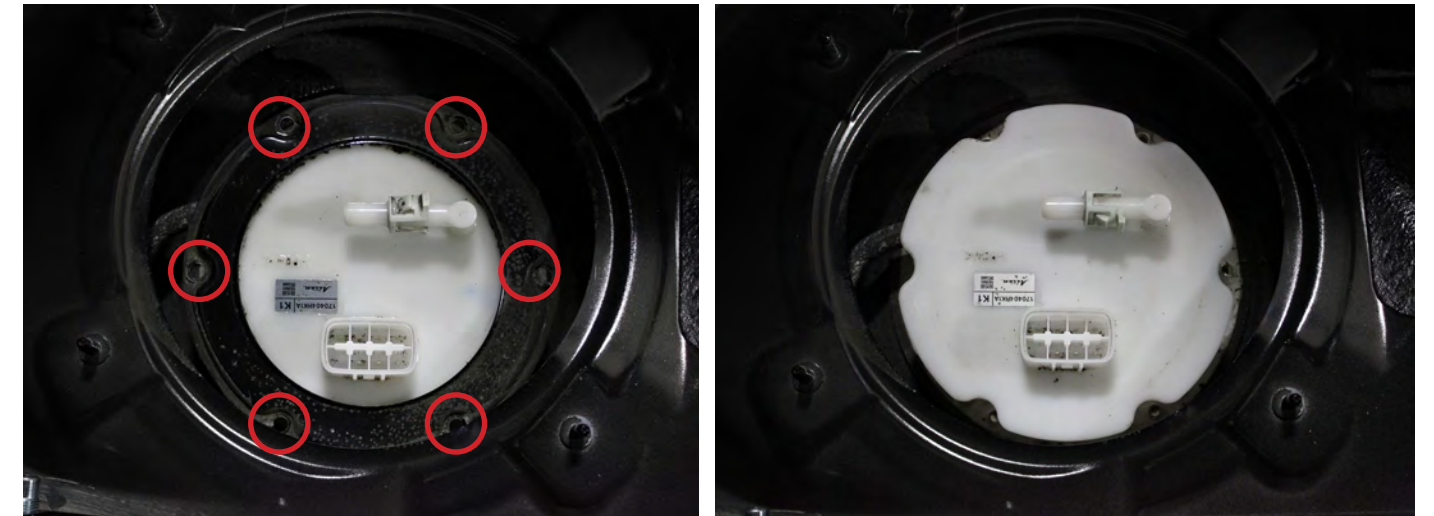
6. Make sure the fuel pressure has been relieved. Then disconnect the fuel hose connection on the top of the sending unit. Cover the connection with suitable rags to prevent fuel spray and to collect remaining fuel which may drain from hose.



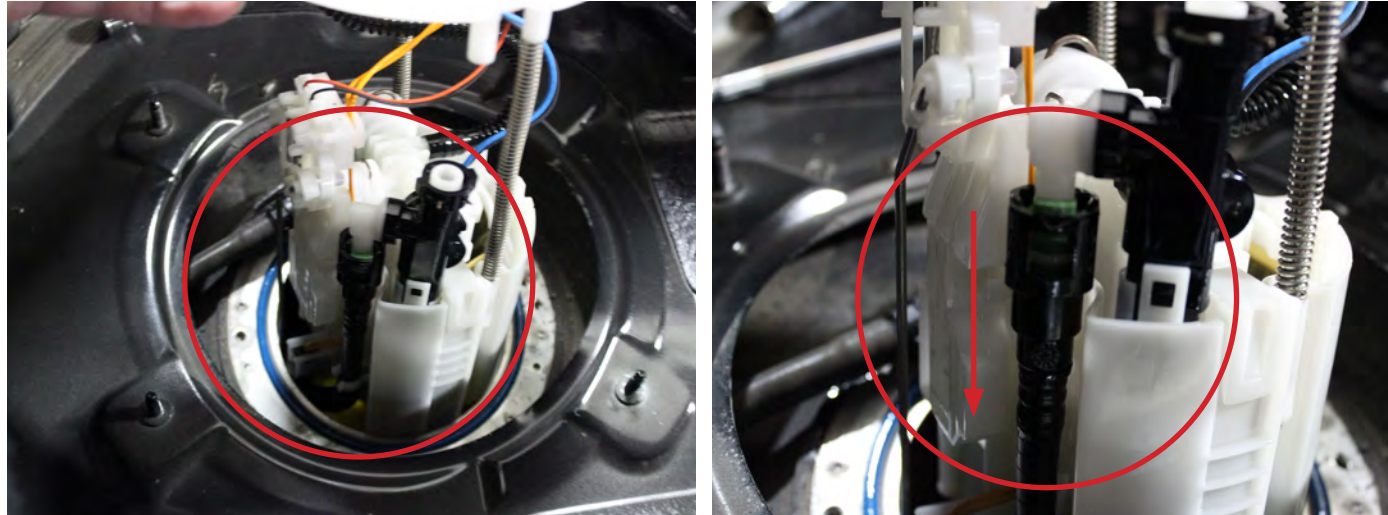
7. Clean the top of the fuel sending unit and fuel tank prior to proceeding. Cleanliness is important as to not introduce contaminants into the fuel cell.



8. Remove the 6 M5 bolts (8mm wrench) securing the fuel sending unit and remove securing ring.



9. Begin to remove the sending unit by pulling upwards. Do not use force as breakage of the sending unit and/or level sending unit can occur. Once the unit is about halfway out, disconnect the internal siphon hose before completely removing.

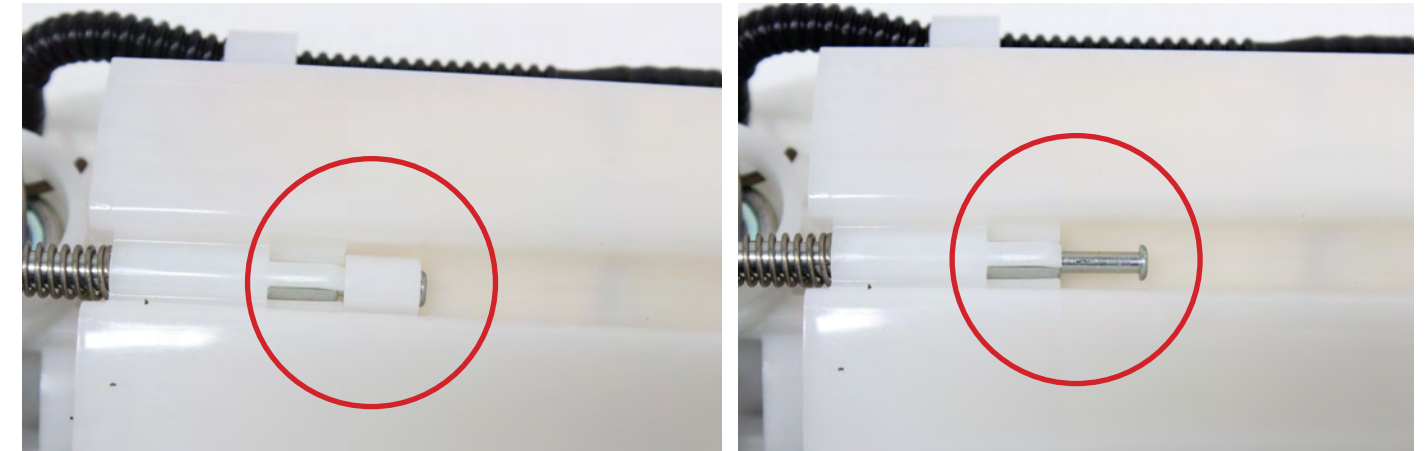


Disassembly

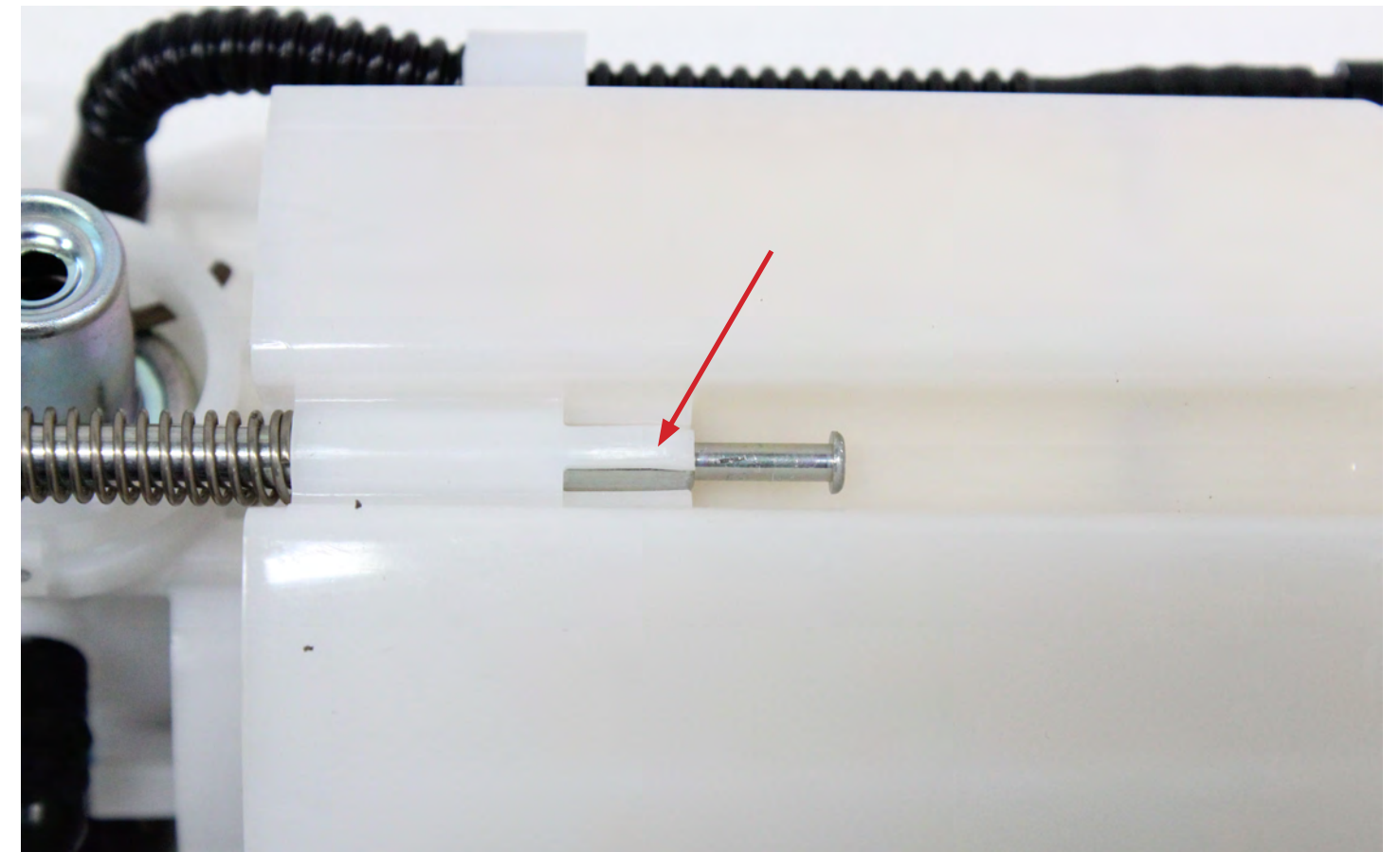
10. Drain any remaining fuel in the assembly into an appropriate container. Transfer the sending unit to a clean workspace. This is what the factory sending unit will look like when fully removed from the vehicle.



11. Remove this retaining collar.

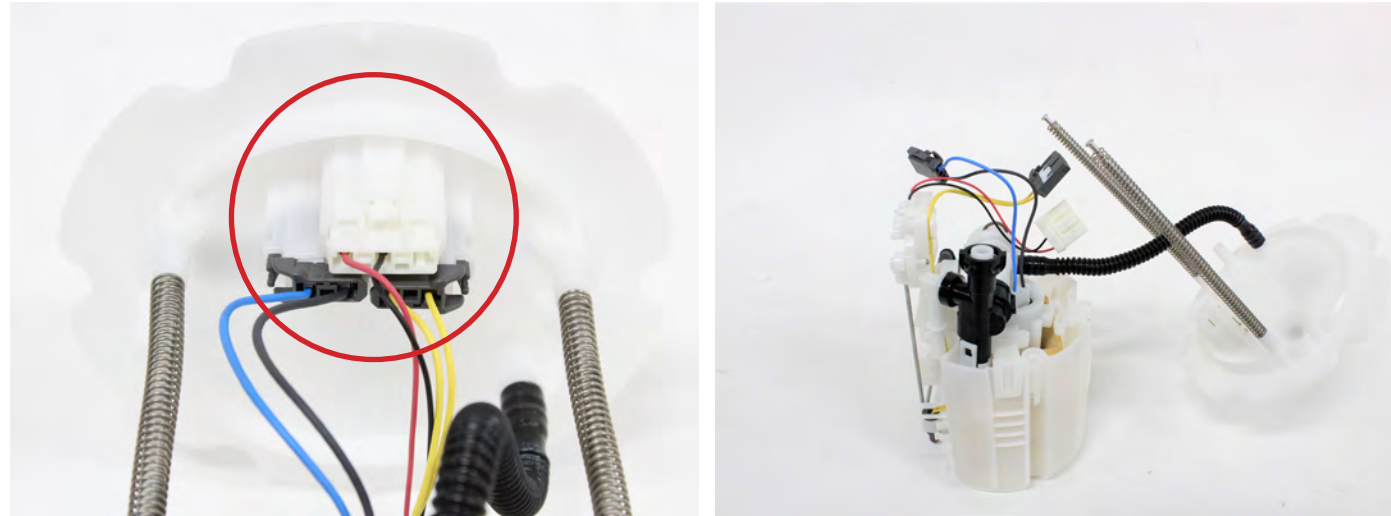


12. Release the tabs on both sides of the sending unit to release the spring loaded mounting rods.

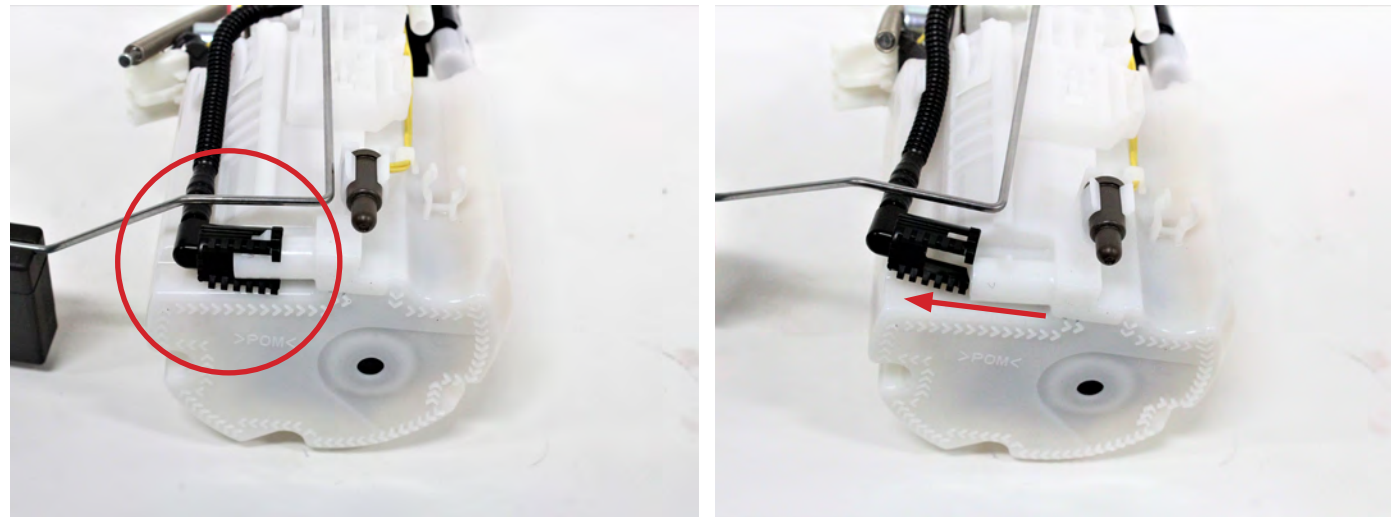


13. Disconnect the electrical connections and separate the top half of the unit.

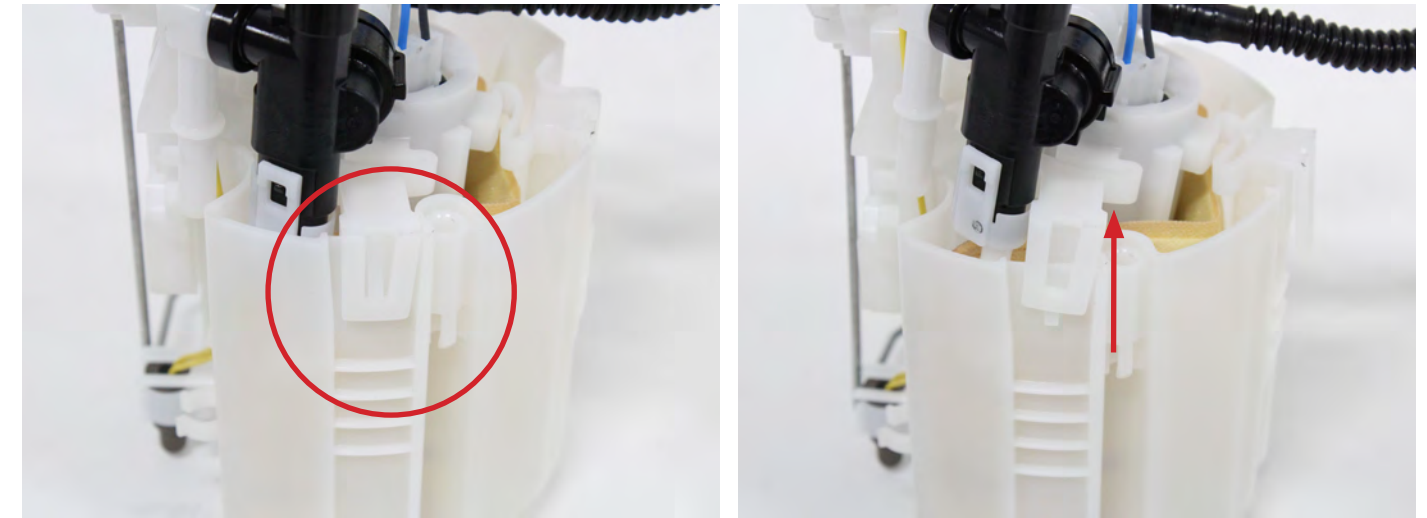
Important: Number / mark the location of the two grey connectors. These connectors are not "keyed" and can be misplaced upon installation. Improper placement will cause damage to the sending unit when complete with installation.



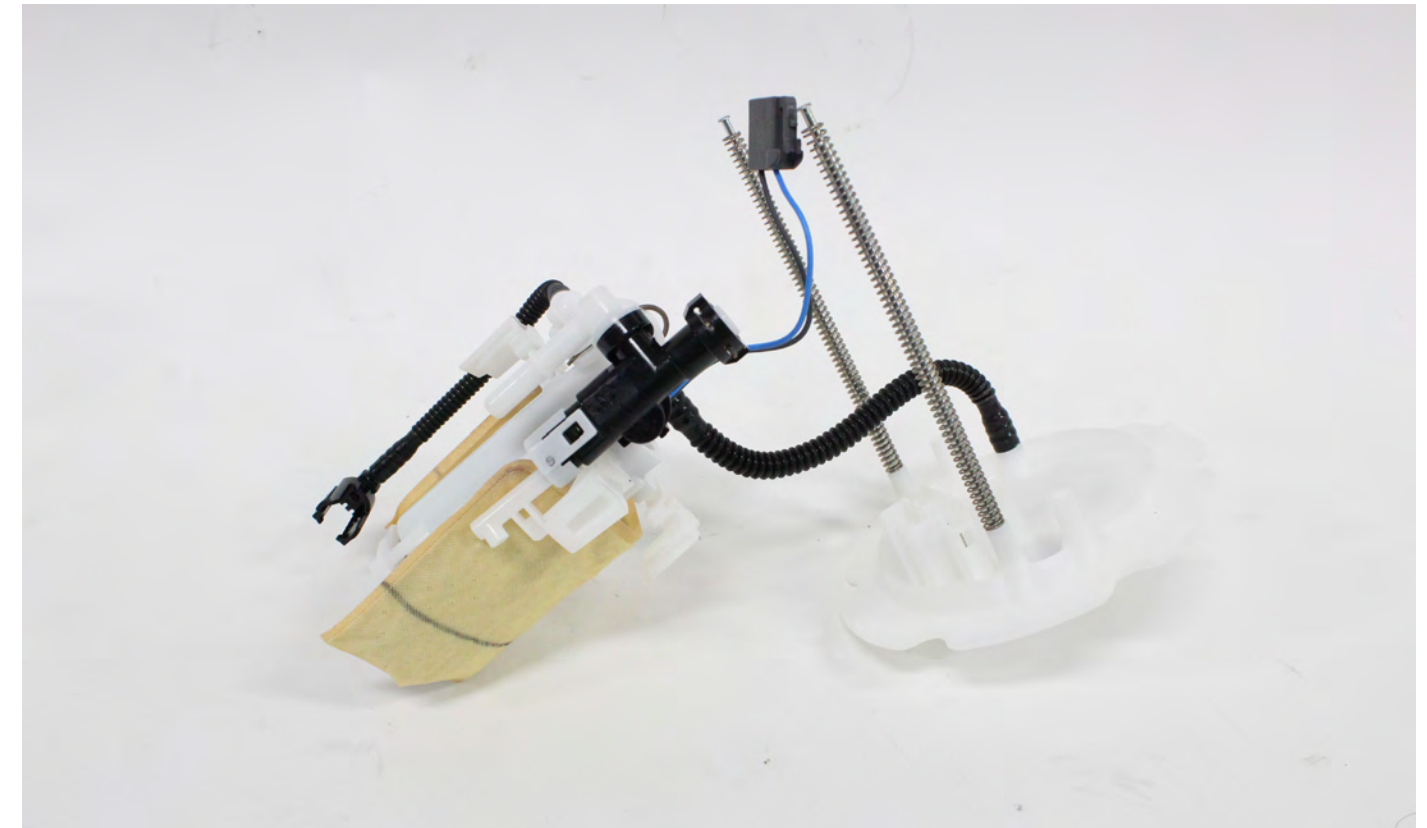
14. Release this hose connection.



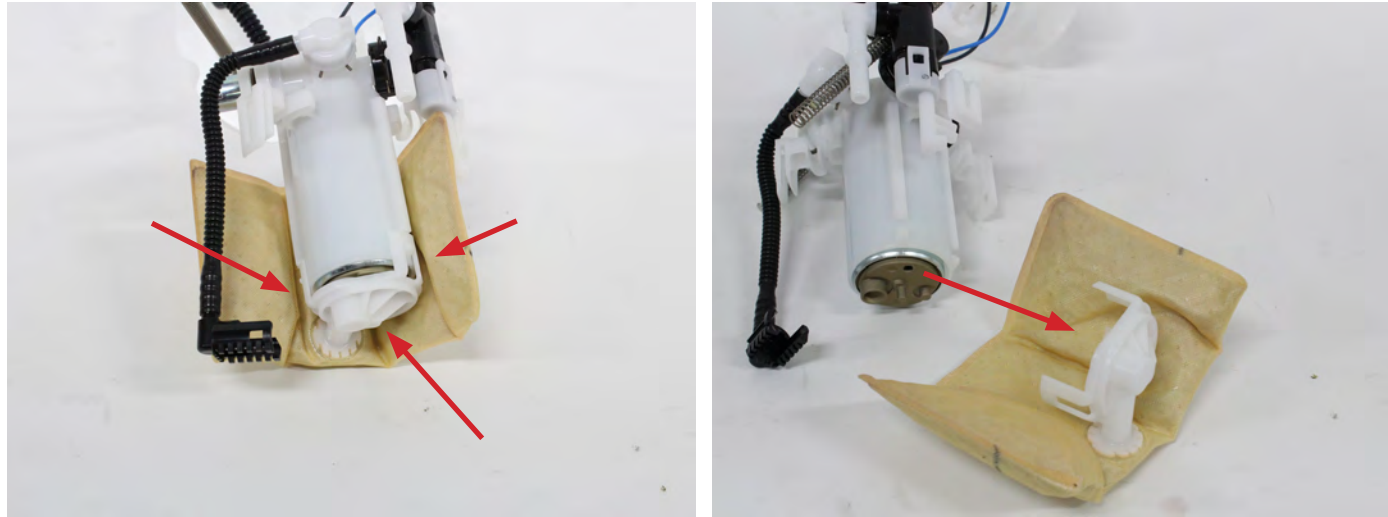
15. Release the 3 locking tabs securing the pump assembly to the sending unit.



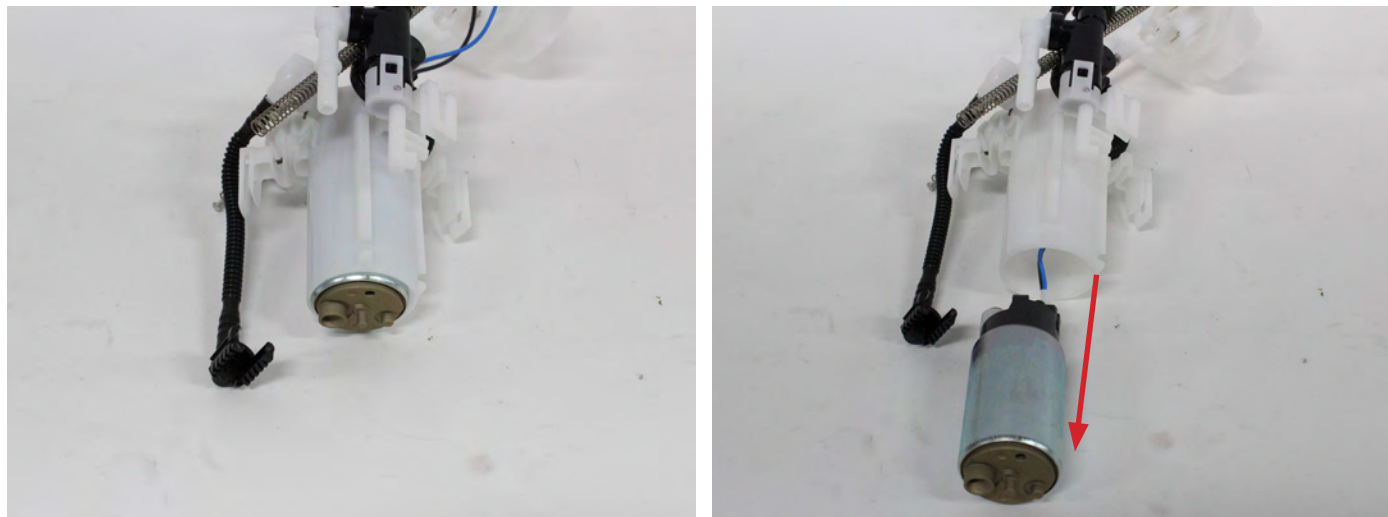
16. Remove the pump assembly from the sending unit basket.



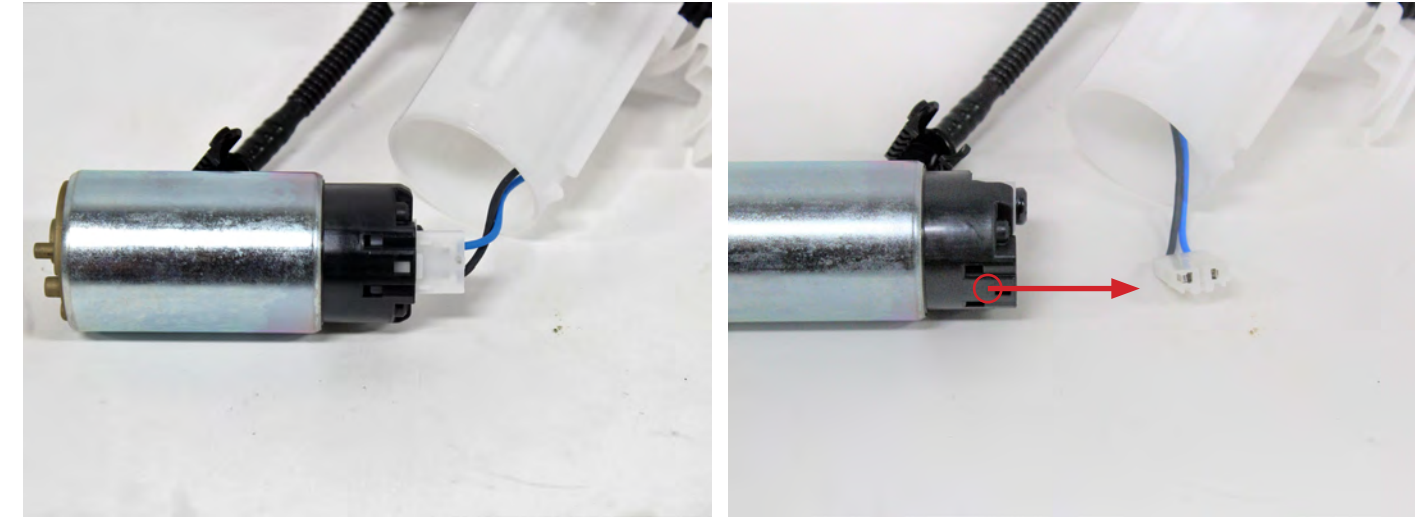
17. Remove the filter sock by releasing the 3 locking tabs. Set to the side.



18. Remove the pump from the pump assembly.



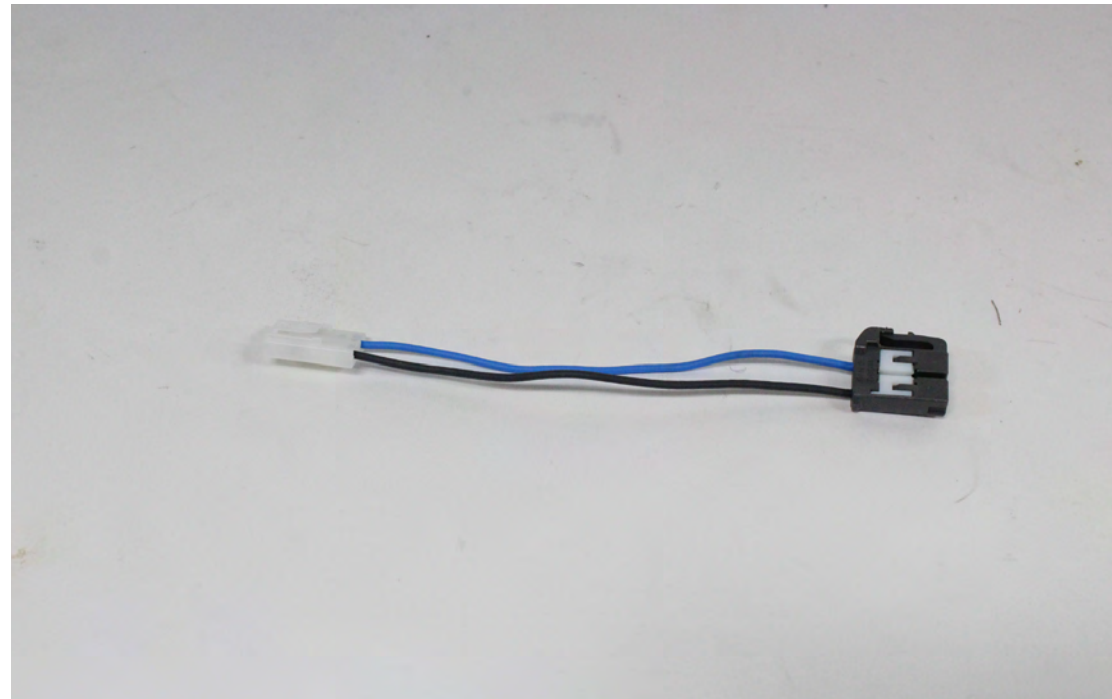
19. Disconnect the electrical connection to the pump.



20. Check to see if the pump outlet O-ring removed with the pump, if not, it will still be inside the pump assembly housing. Remove the O-ring and set it to the side.

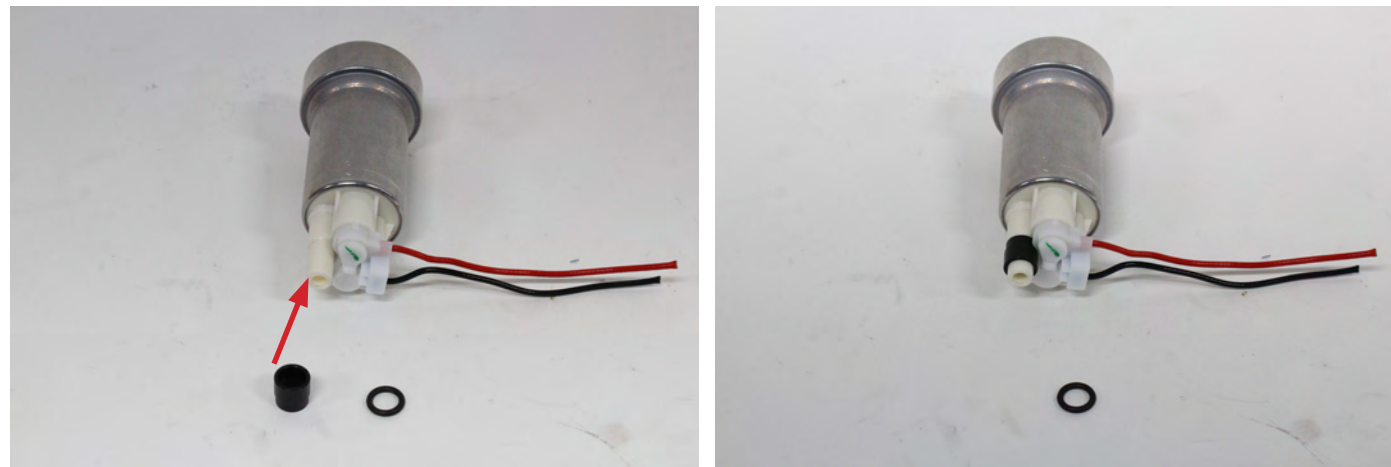


21. Remove the factory fuel pump wire harness and set to the side.

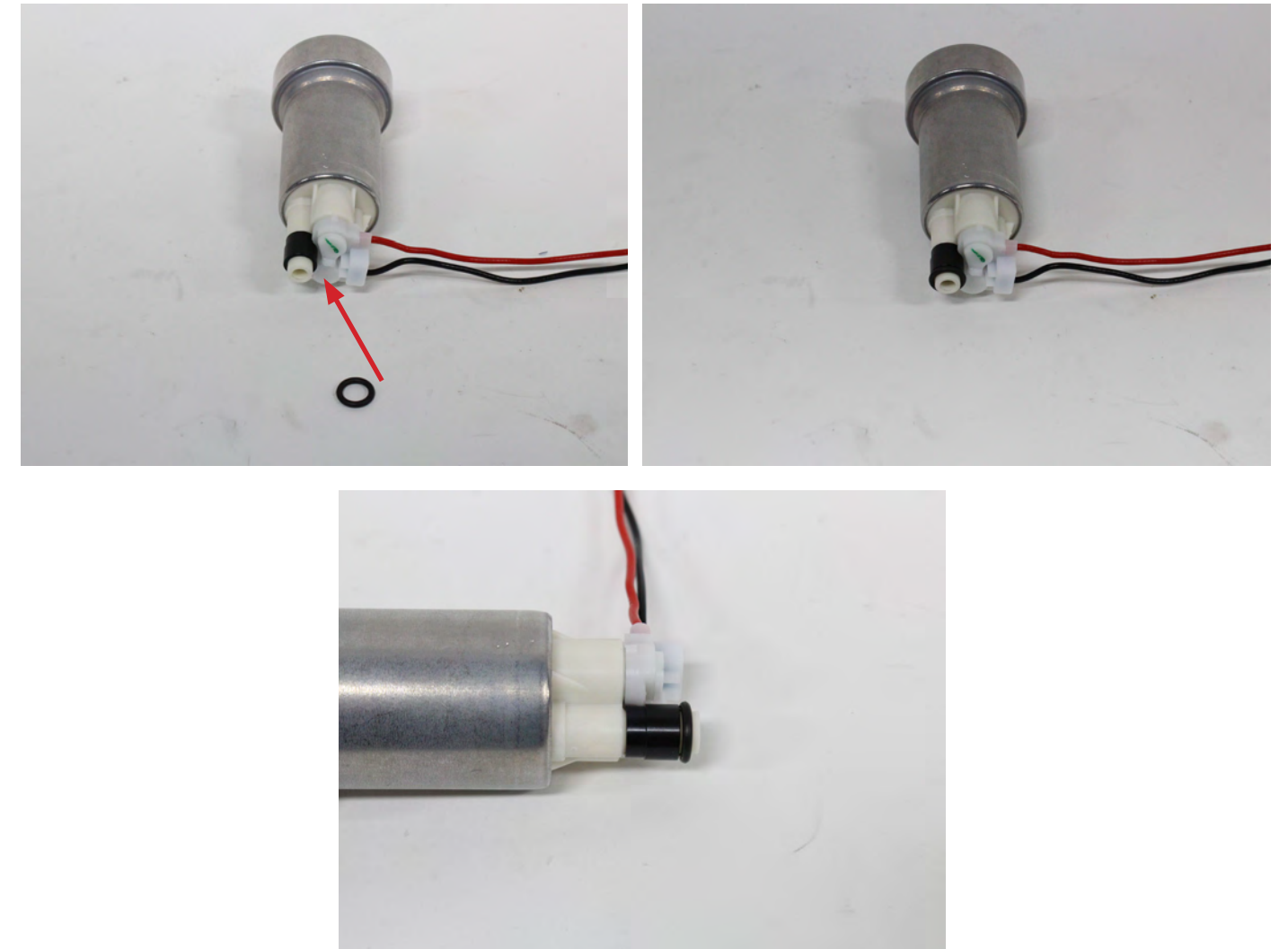


Assembly & Installation

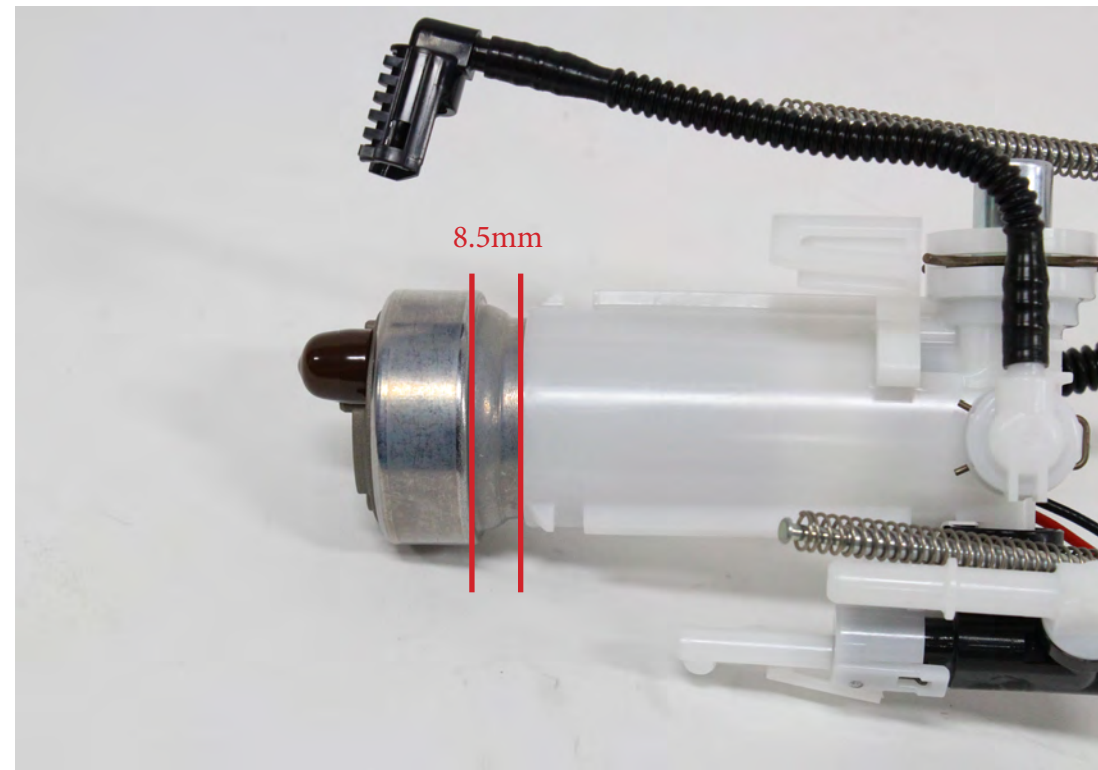
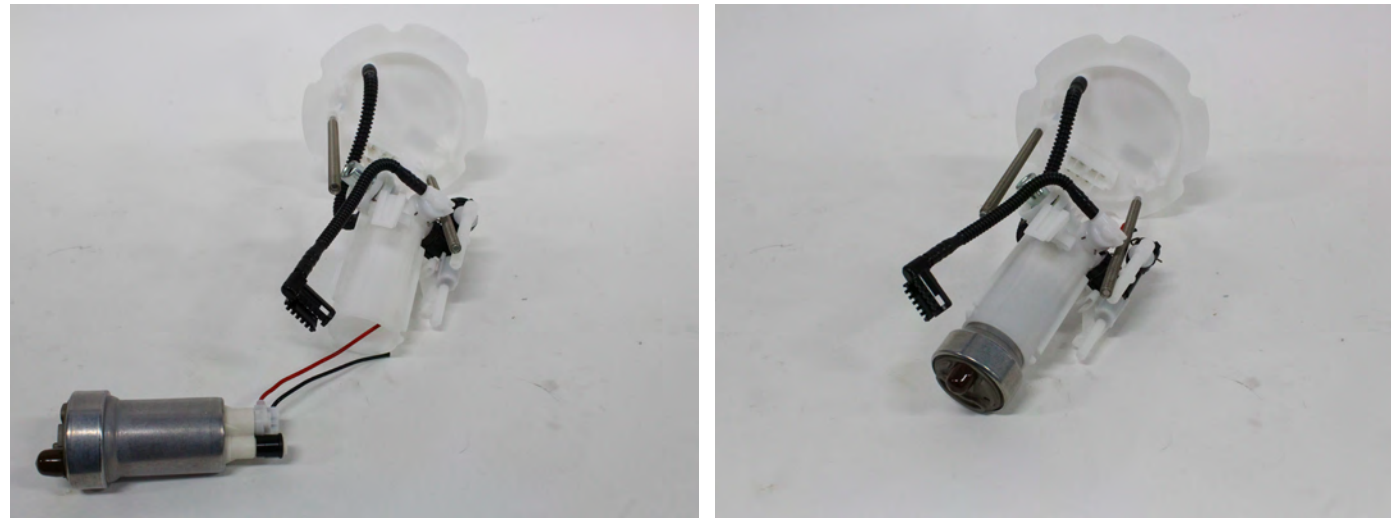
22. Install the supplied collar on the upgraded pump outlet.



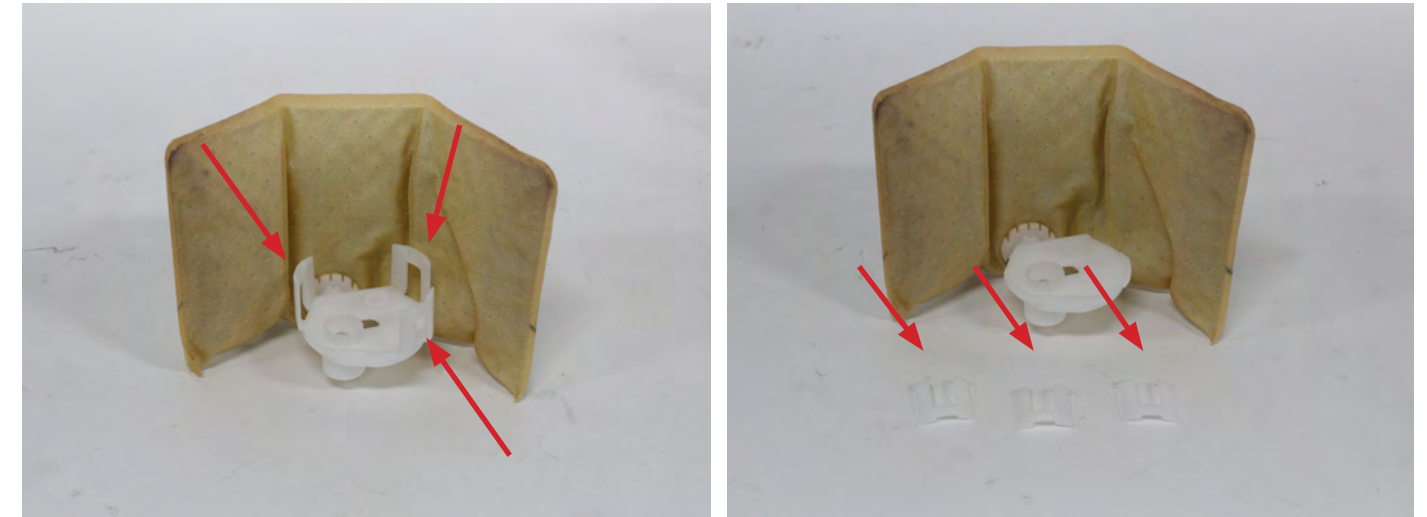
23. Place the O-ring from the factory pump onto the upgraded pump.



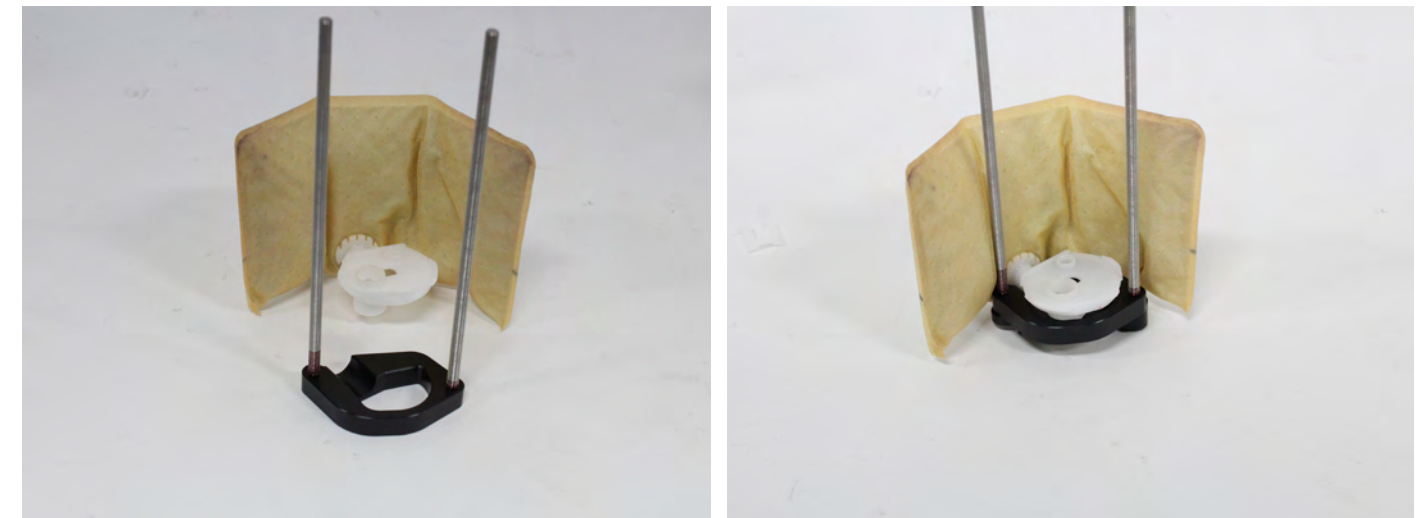
24. Insert the upgraded pump into the pump assembly.



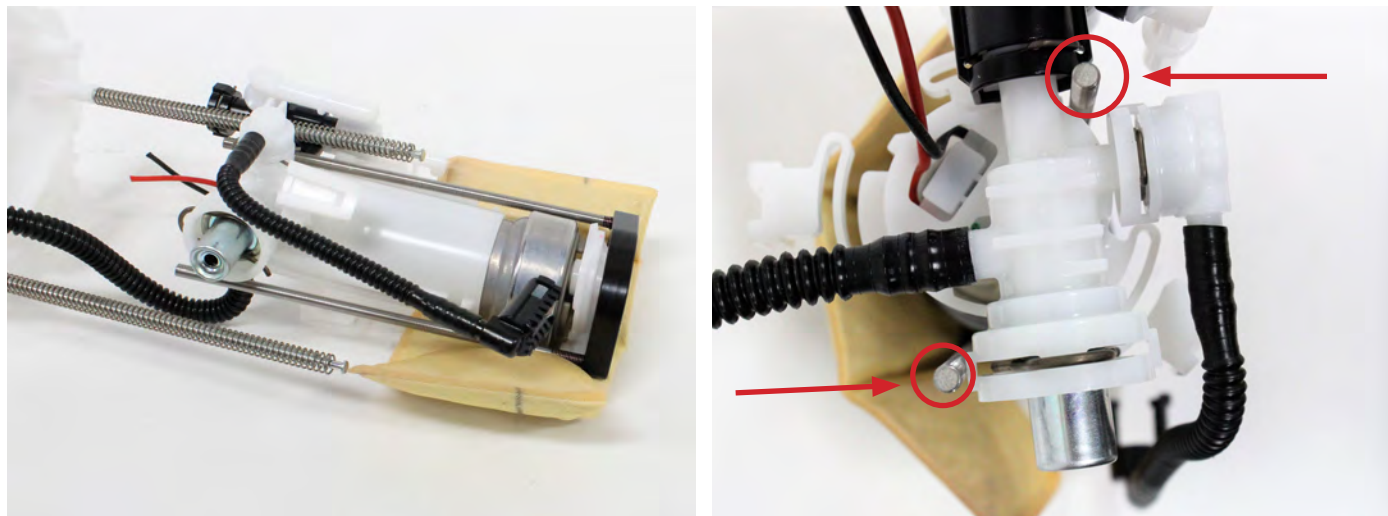
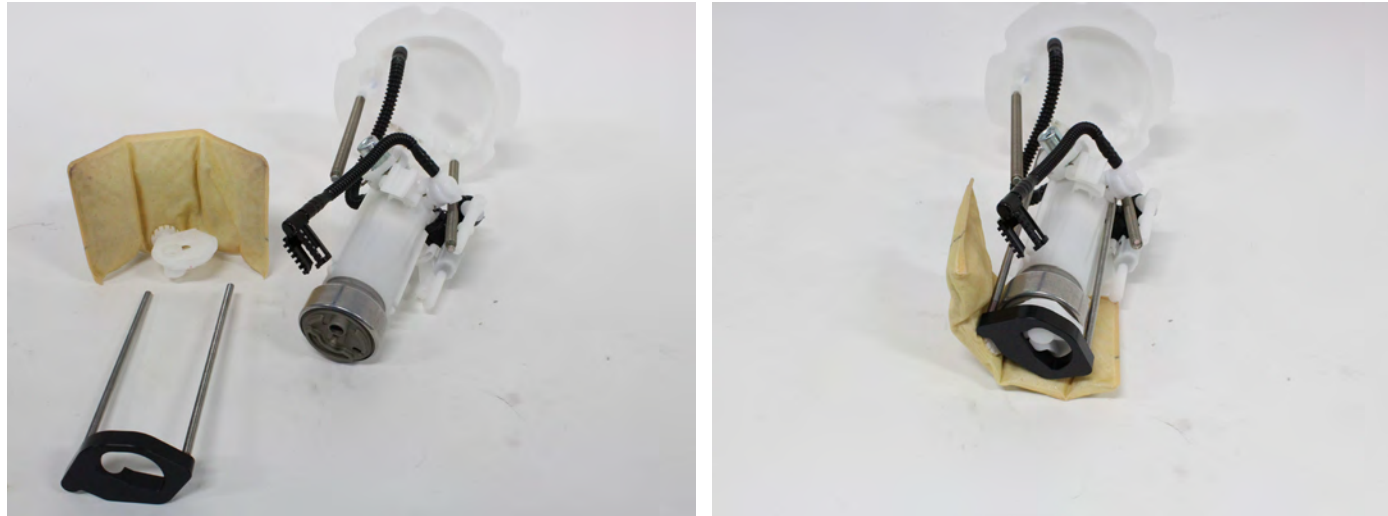
25. Locate the factory fuel filter sock. Cut the locking tabs off of the filter as shown below.



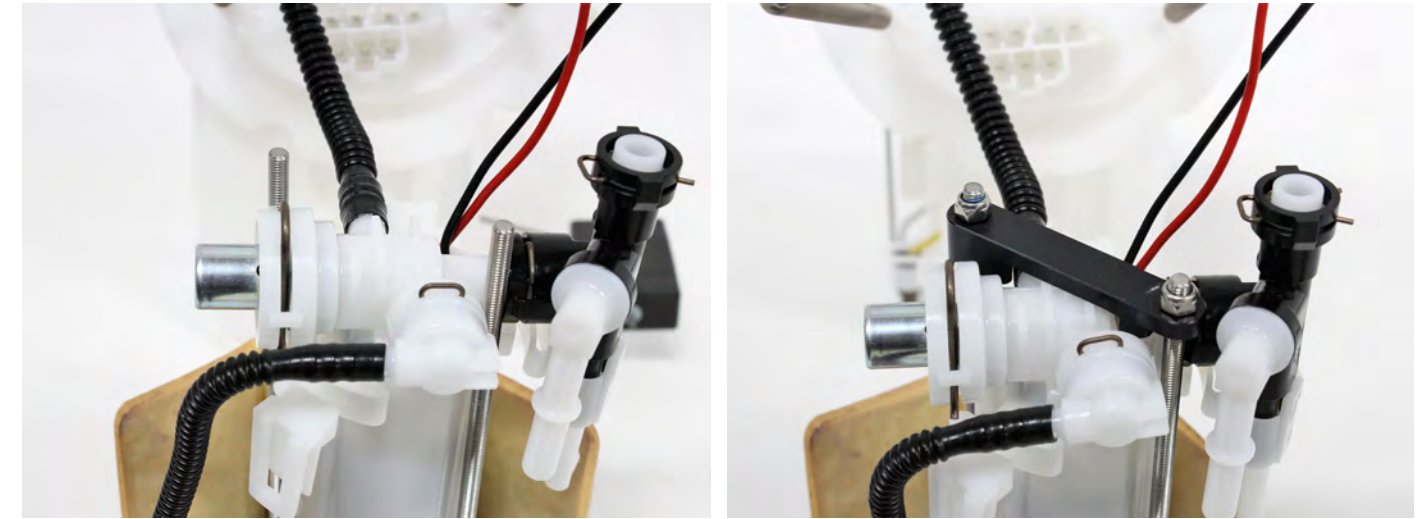
26. Locate the Alpha fuel pump bracket supplied in your kit. Note how the pump bracket fits onto the filter.



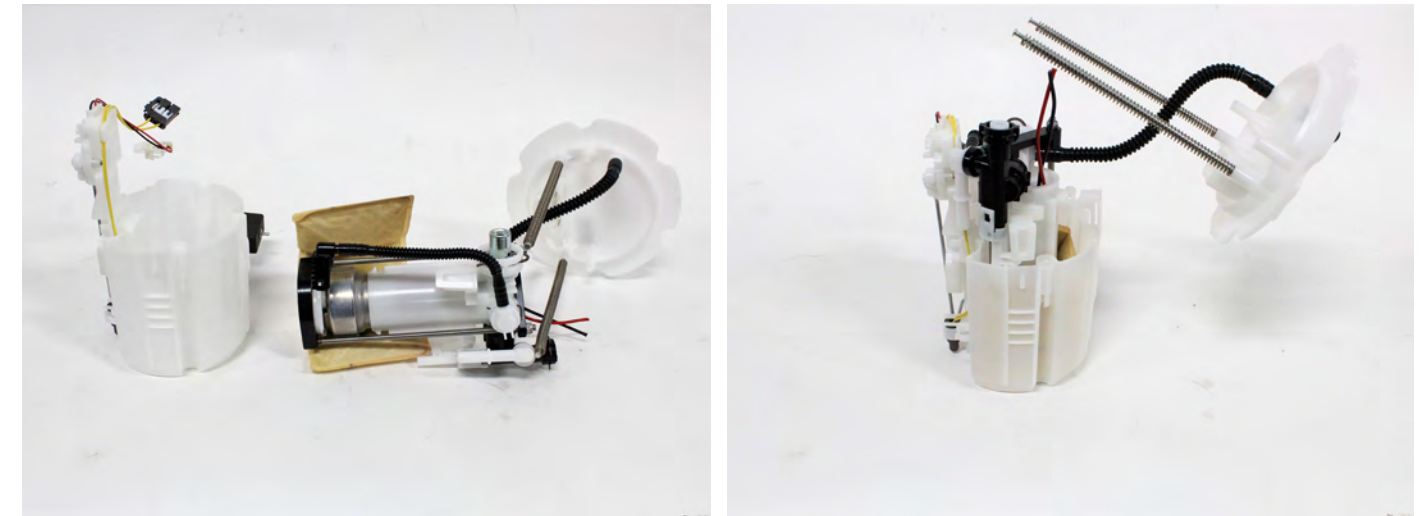
27. Install the fuel filter sock and the Alpha fuel pump bracket onto the fuel pump assembly as shown.



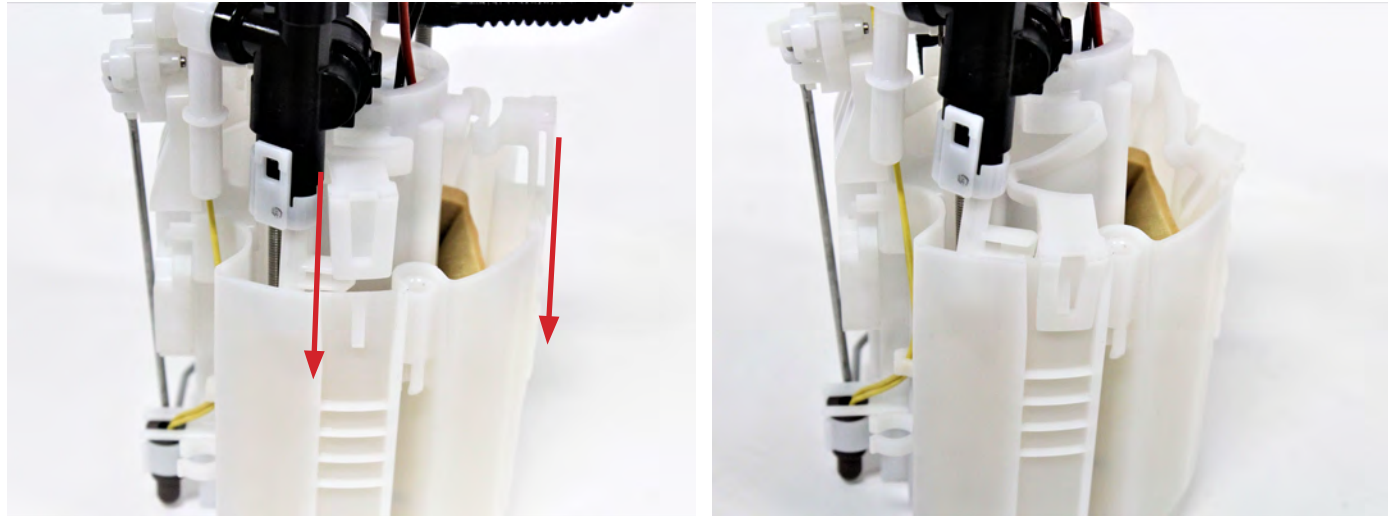
28. Install the upper bracket as shown.



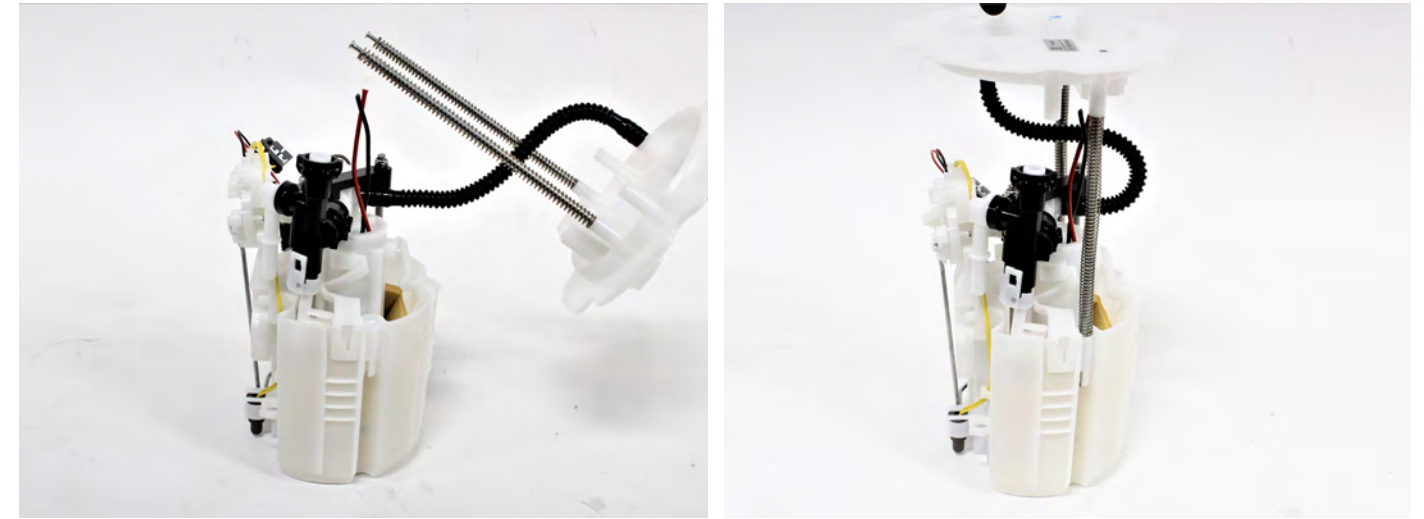
29. Reinstall the pump assembly into the sending unit.



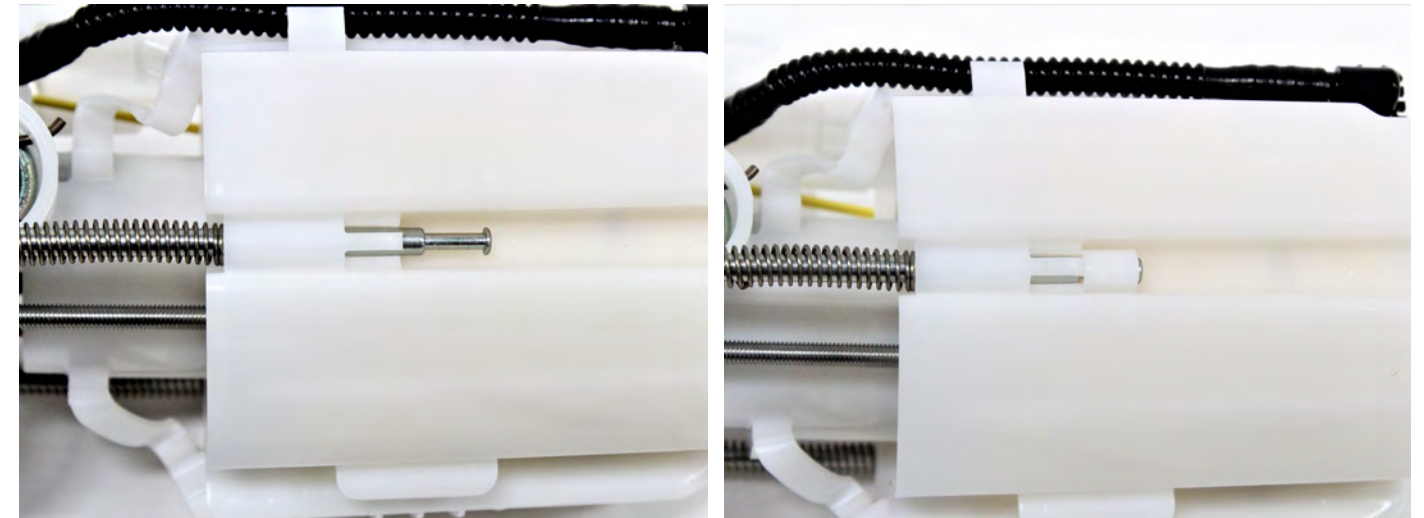
30. The new fuel pump assembly is taller than the factory assembly. The locking tabs need to be pulled down tight in order to lock in place.



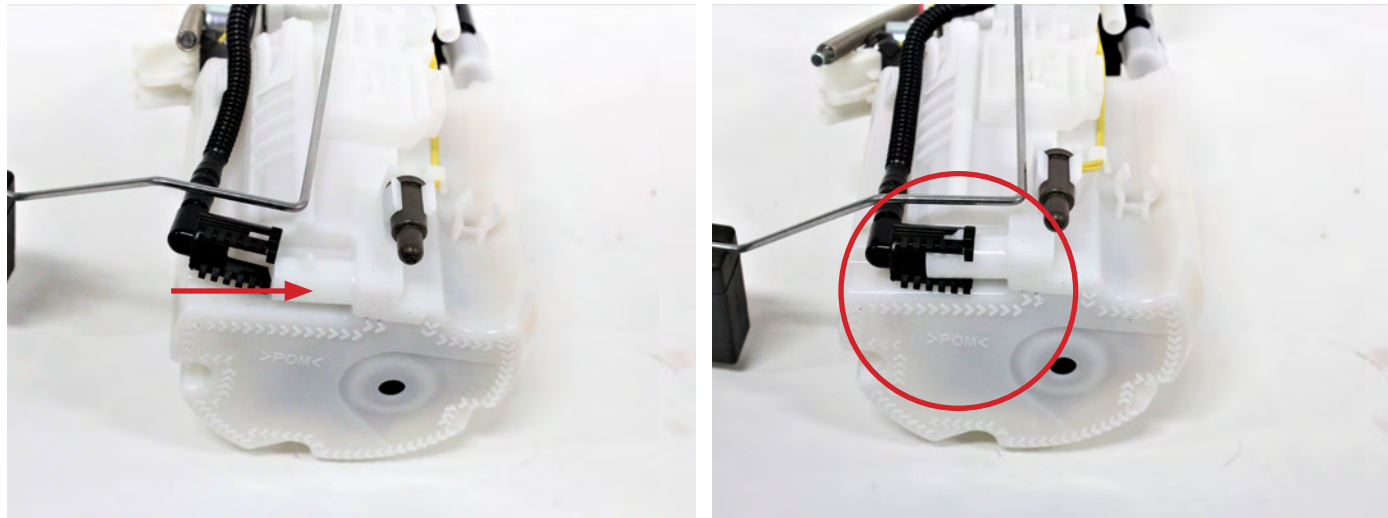
31. Reinstall the sending unit top hat. Reconnect electrical connections.



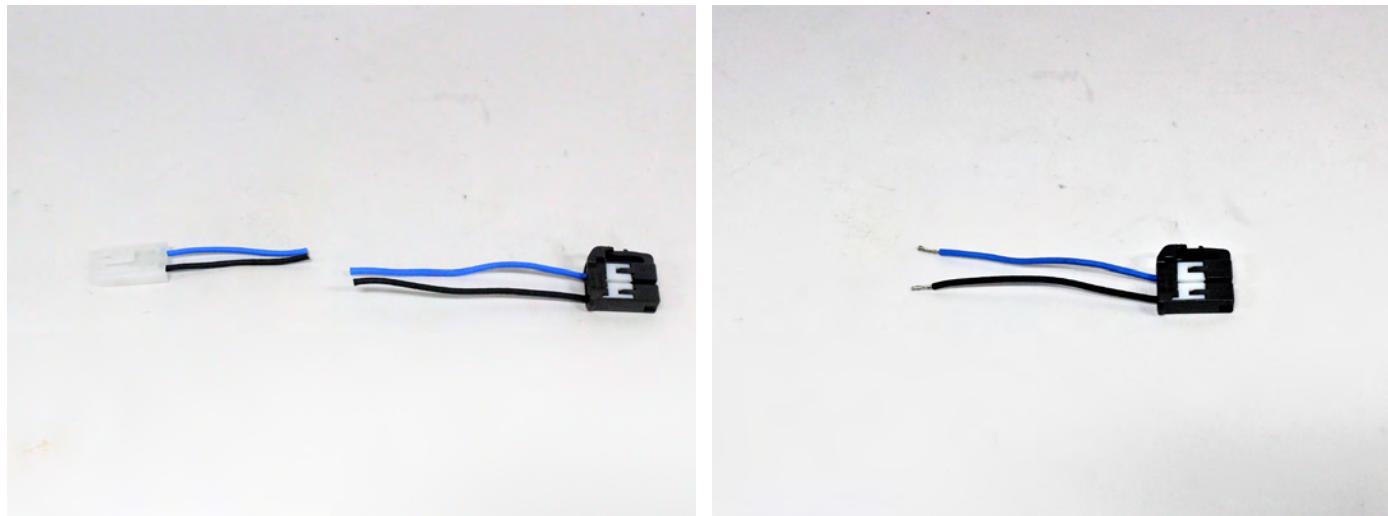
32. Reinstall retaining collar.



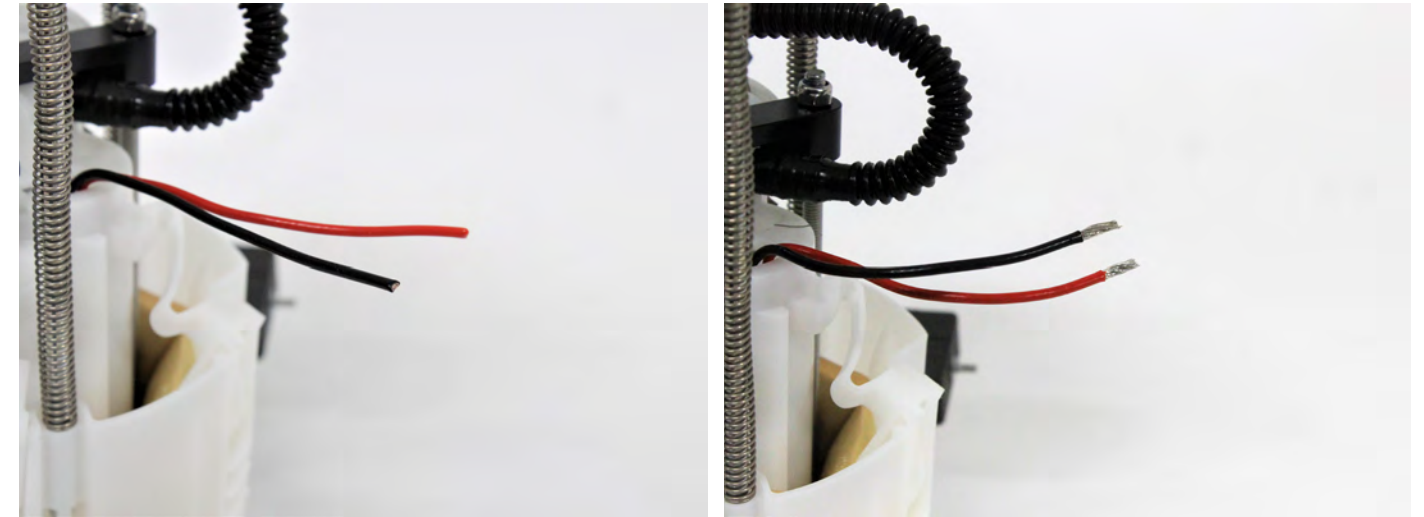
33. Reconnect hose.



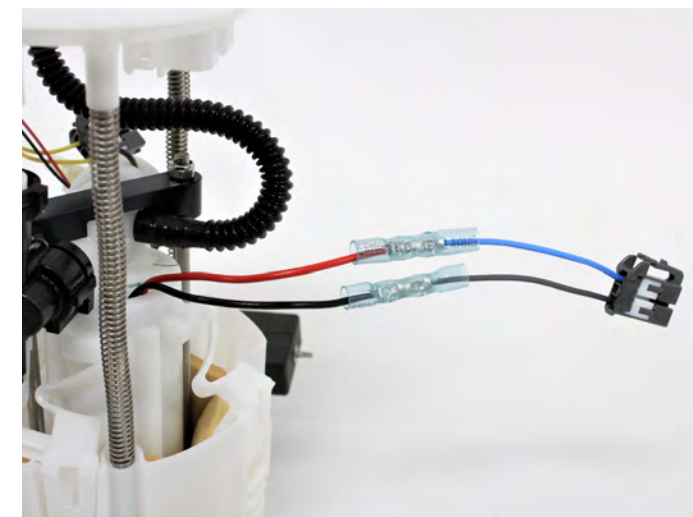
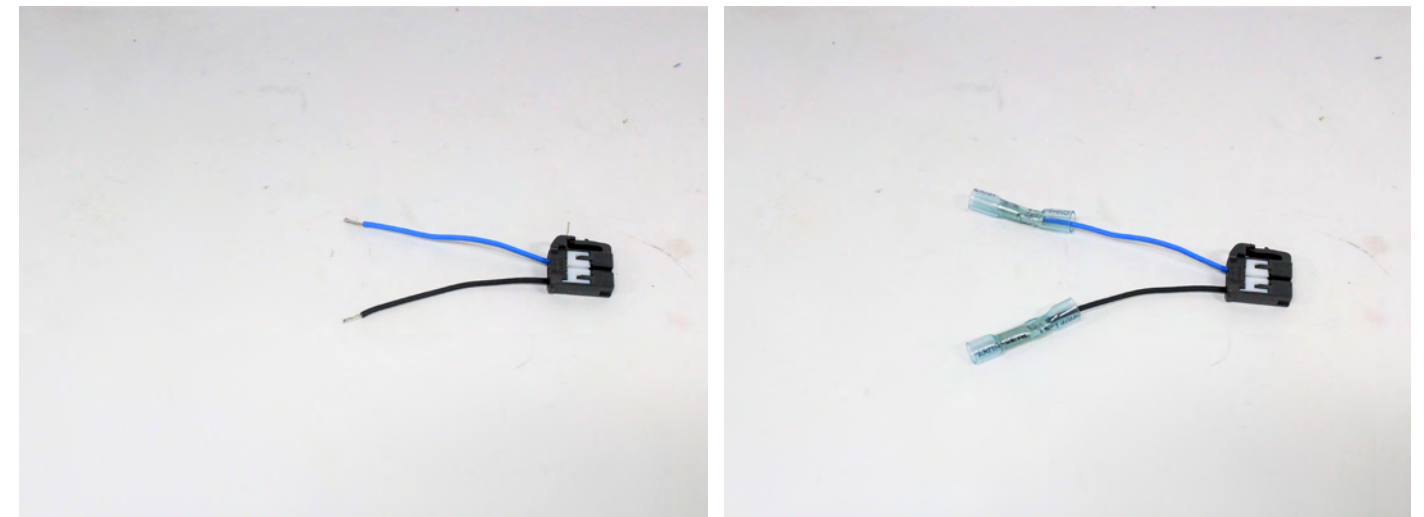
34. Cut the factory pump wiring about 2 inches from the white/clear pump connector. Strip the insulation from the ends of the blue and black wires on the harness remaining in the pump assembly by about 3/16".



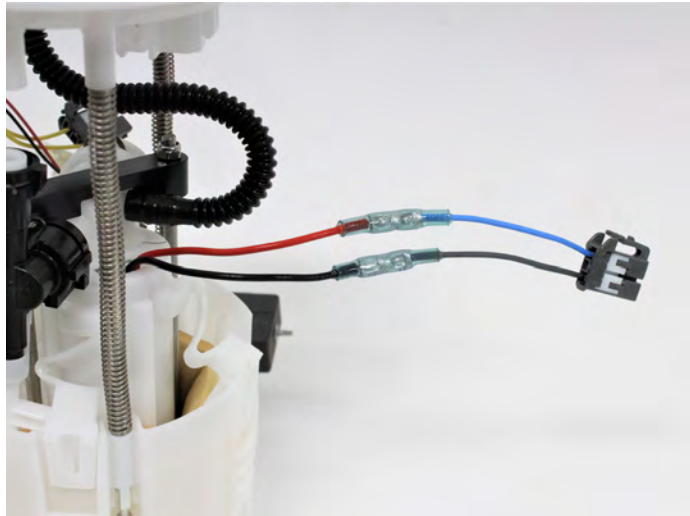
35. Strip the insulation from the ends of the red and black wires attached to the fuel pump by about 3/16".



36. Make the connection between the harnesses with the supplied blue heat shrink sealed crimp connectors. Blue wire is connected to Red, Black wire to Black.



37. Finish the connection by using a heat gun to shrink seal the crimp connectors.

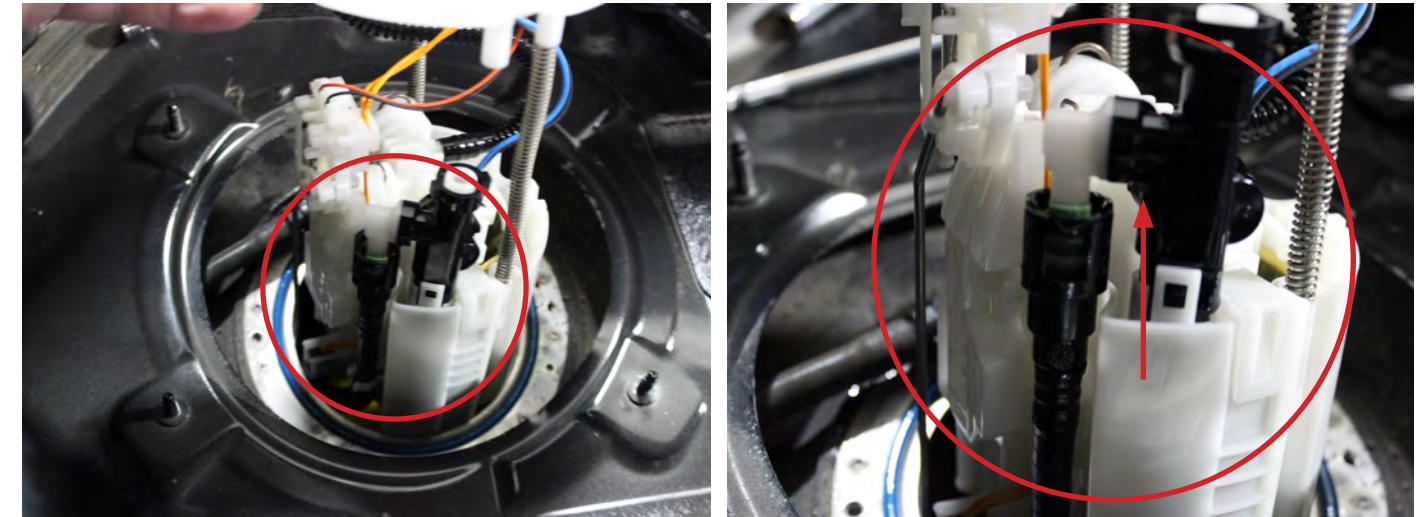


38. Reconnect electrical connectors to sending unit top hat.

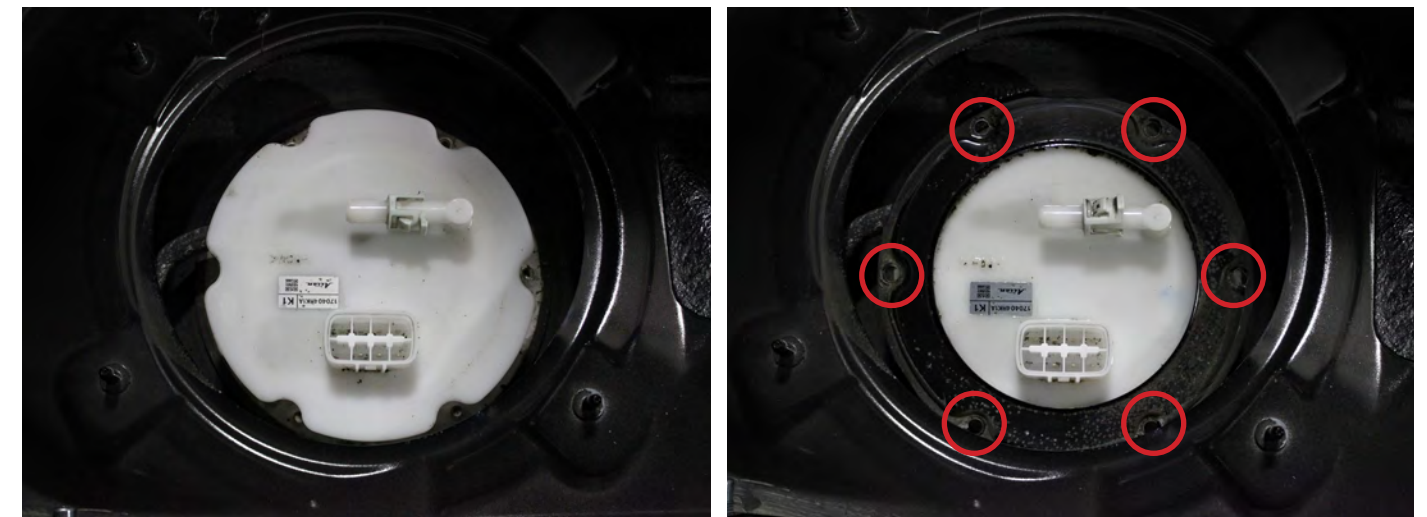


Reinstallation

39. Reinstallation is reverse of removal. Please review above (removal) steps in reverse order. Begin by inserting the sending unit into the fuel tank. Do not use force, as breakage of the sending unit and or level sending unit can occur. Once the unit is about halfway in, reconnect the internal siphon hose. Make sure the siphon hose is not routed underneath the sending unit as this will prohibit the pump from fully seating in the tank.



40. Fully seat the sending unit into the fuel tank, making sure the siphon hose is clear of the level sender and not routed underneath the sending unit. Reinstall the retaining ring, securing the sending unit in the fuel tank. The new unit is slightly taller than factory, so the unit will need to be compressed. Tighten the 6 M5 bolts (8mm wrench) securing the fuel sending unit.



41. Reinstall the fuel feed line.
42. Reconnect the electrical connection.
43. Reinstall fuel pump fuse.
44. Switch the ignition to the on position. The fuel pump should prime for about 1 sec. switch the ignition off and back on to prime again. Repeat this about 3-4 times to ensure the fuel system has fully primed. There should be and audible change in sound of the pump once it has built pressure/primed.
45. Check for leaks around the fuel feed line connection.
46. Reinstall sending unit cover and replace the sound deadening to its original position.



47. Reinstall rear seat cushion. Push down to lock the seat cushion into place.



48. Enjoy.