



advanced FLOW engineering

DFS780 Fuel System - Full-time Operation

Instruction Manual P/N: 42-13051

Make: **Ford** Model: F250/F-350 Year: **2017-2020** Engine: **V-8 6.7L (td)**

Fuel Pressure: **8-10 psi (relay controlled)**

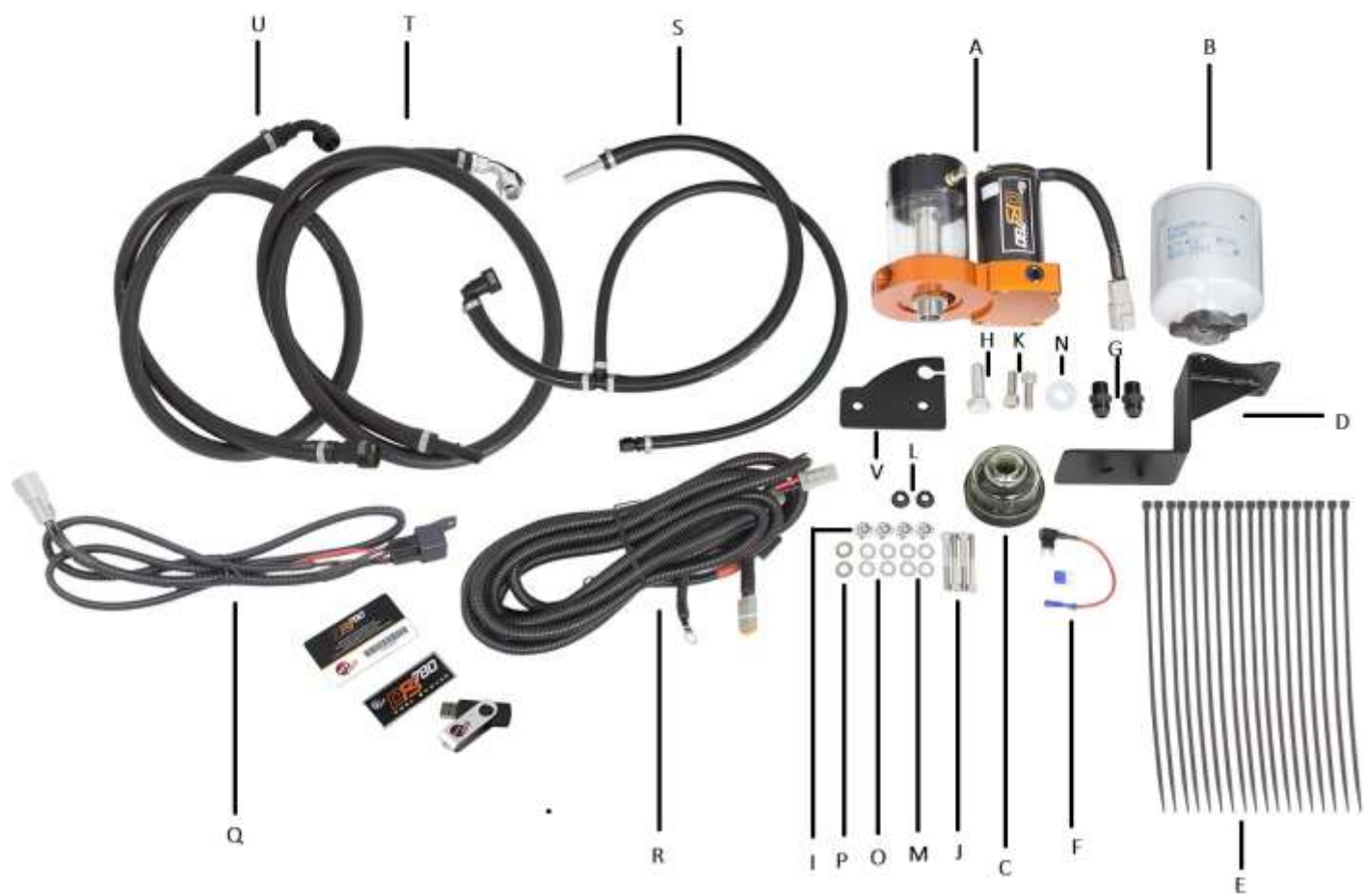
Supported Horsepower: **2000+**



- Please read the entire instruction manual before proceeding.
- Ensure all components listed are present.
- If you are missing any of the components, call customer support at 951-493-7100.
- Ensure you have all necessary tools before proceeding.
- Ensure that your vehicle is cooled off before proceeding.
- Retain factory parts for future use.

Label	Qty	Description	Part Number
A	1	Fuel Manifold Assembly	05-60478
B	1	Filter, Fuel	44-FF018
C	1	Bowl, Water Separator	05-60786
D	1	Bracket, Frame; Carbon Steel	05-60801
E	18	Ties, Nylon Cable: 12"	05-60167
F	1	Adapter, Fuse; Add a Harness	05-60691
G	2	Fitting, 3/8" NPT to -8 AN (Straight)	05-60685
H	1	Screw, Cap: 1/2"-13 – 1.50"	03-50464
I	4	Locknut, Flanged: M6	03-50445
J	4	Screw, Socket Hd Cap: M6 x1.0x50mm	03-50443
K	2	Screw, Socket Hd Cap: 3/8"-16 x 1"	03-50229
L	2	Nut, Flanged Serrated: 3/8"-16	05-40103
M	4	Washer, M6	03-50444
N	1	Washer: 1/2"	03-50494
O	4	Washer, M6 (Fiber)	03-50457
P	2	Washer, Flat: 3/8" AN	03-50230
Q	1	Harness, Stand Alone Relay	05-60551
R	1	Harness, Power	05-60523
S	1	Hose, Fuel Return	05-60843
T	1	Hose, Fuel Inlet	05-60844
U	1	Hose, Fuel Outlet	05-60845
V	1	Bracket, Parking Brake Cable	05-60823

Note: Legal in California for use on race vehicles only. The use of this device on vehicles used on public streets or highways is strictly prohibited in California and others states that have adopted California emission regulations.





1. Locate the transmission crossmember below the driver's door.



2. Mount the supplied carbon steel frame bracket to the frame using the supplied $\frac{1}{2}$ "-13 x 1.50" bolt & $\frac{1}{2}$ " washer and tighten.



3. Remove the parking brake cable from its forward mount on the frame (under the drivers door).



4. Mount the supplied parking brake cable bracket to the forward mount for the factory parking brake cable with the supplied hardware and tighten.
 - (2) 3/8" x 16 x 1" socket head cap screw
 - (4) 3/8" AN flat washers
 - (2) 3/8" flanged serrated nut



5. Mount the supplied fuel manifold assembly to the carbon steel frame bracket using the supplied hardware and tighten:

- (4) M6x1.0 x 50mm socket head cap screws
- (4) M6 washers
- (4) M6 fiber washers
- (4) M6 flanged locknuts

Note: The fiber washers go between the fuel manifold assembly and the carbon steel frame bracket.

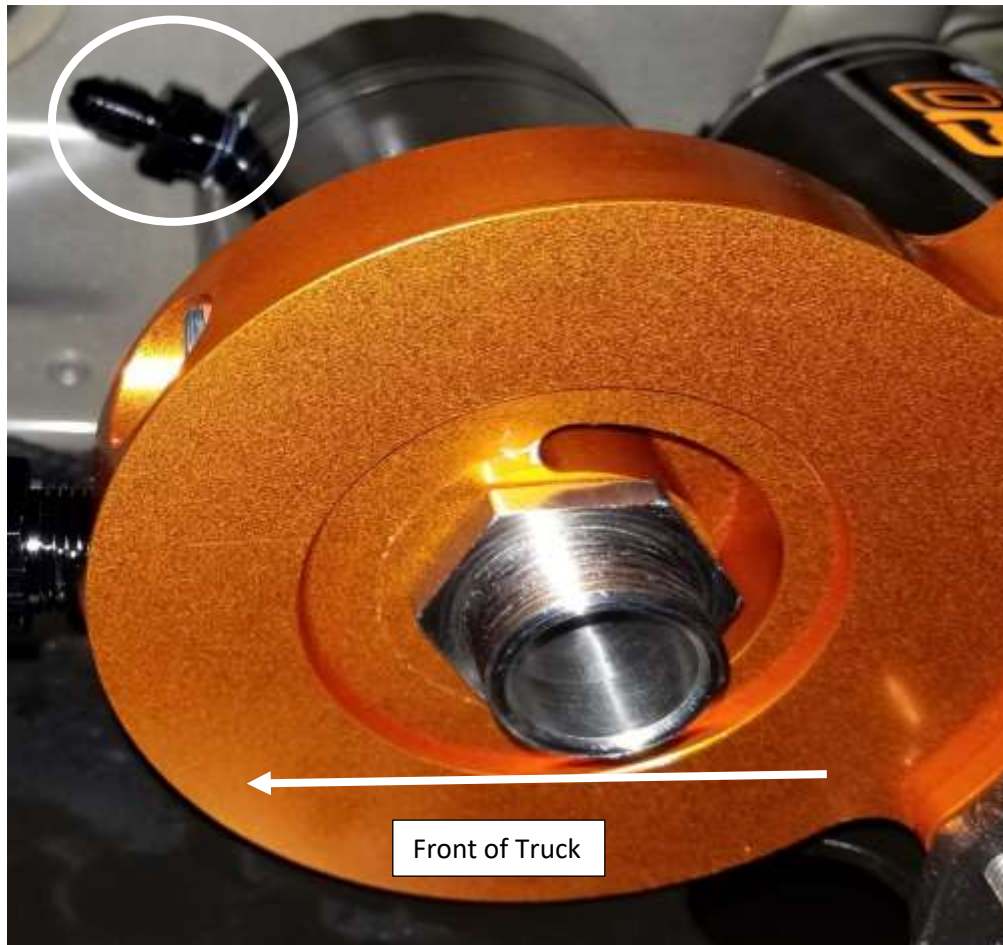


6. Apply Teflon tape with PTFE or Teflon paste with PTFE to the supplied two (2) 3/8" NPT to -8 AN fittings.

Note: Only apply Teflon to the NPT side of the fitting.



7. Install the two (2) 3/8" NPT to -8 AN fittings into the fuel manifold assembly (as shown above).



8. Turn the sight glass to the desired angle and using a 1-1/4" wrench, tighten the center nut under the fuel manifold assembly.

Note: The pump should look like the picture above.



9. Using a light oil, lube the gasket on the supplied fuel filter and install on the fuel manifold assembly. Thread the supplied water separator bowl into the fuel filter.

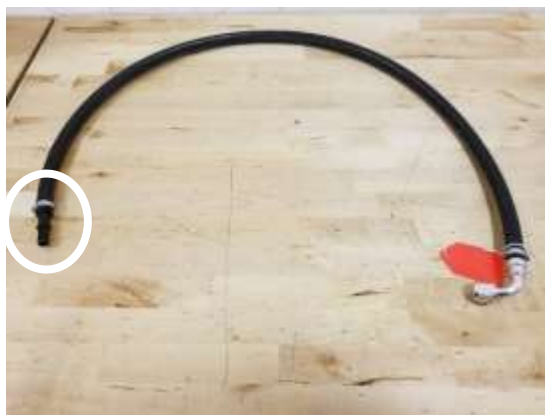


10. Clean the area around the stock fuel lines (located on the driver's side, above the transmission crossmember) to prevent dirt and debris from going into the lines.



11. Disconnect the stock fuel feed line.

12. Install the straight male quick disconnect fitting on the supplied fuel inlet hose (silver 90° -8 AN fitting shown below) into the female side of the stock fuel feed line.





13. Install the female quick disconnect fitting on the supplied fuel outlet hose (black 90° -8 AN fitting - shown below) onto the male side of the stock fuel feed line.





14. Route the fuel inlet hose 180° from the connection and follow the fuel outlet hose over the frame rail to the fuel manifold assembly (fuel inlet hose routing shown above).



15. Install the fuel inlet hose (90° silver -8 AN fitting) onto the male -8 AN fitting on the fuel inlet port of the fuel manifold assembly.





16. Install the fuel outlet hose (90° black -8 AN fitting) onto the male -8 AN fitting on the fuel outlet port of the fuel manifold assembly.





17. Using the supplied nylon cable ties, secure the new hoses (as shown above).



18. Using the supplied nylon cable ties, secure the new hoses (as shown above).



19. Clean the area around the stock fuel cooler (located on the driver's side frame rail near the engine) to prevent dirt and debris from going into the lines.



20. Disconnect the forward most fuel return line on the factory cooler.

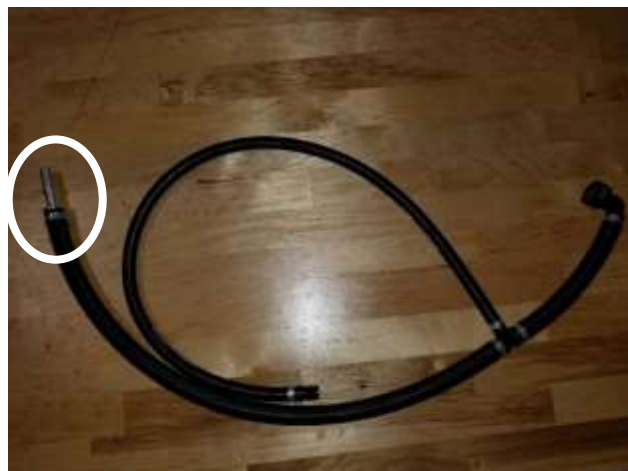


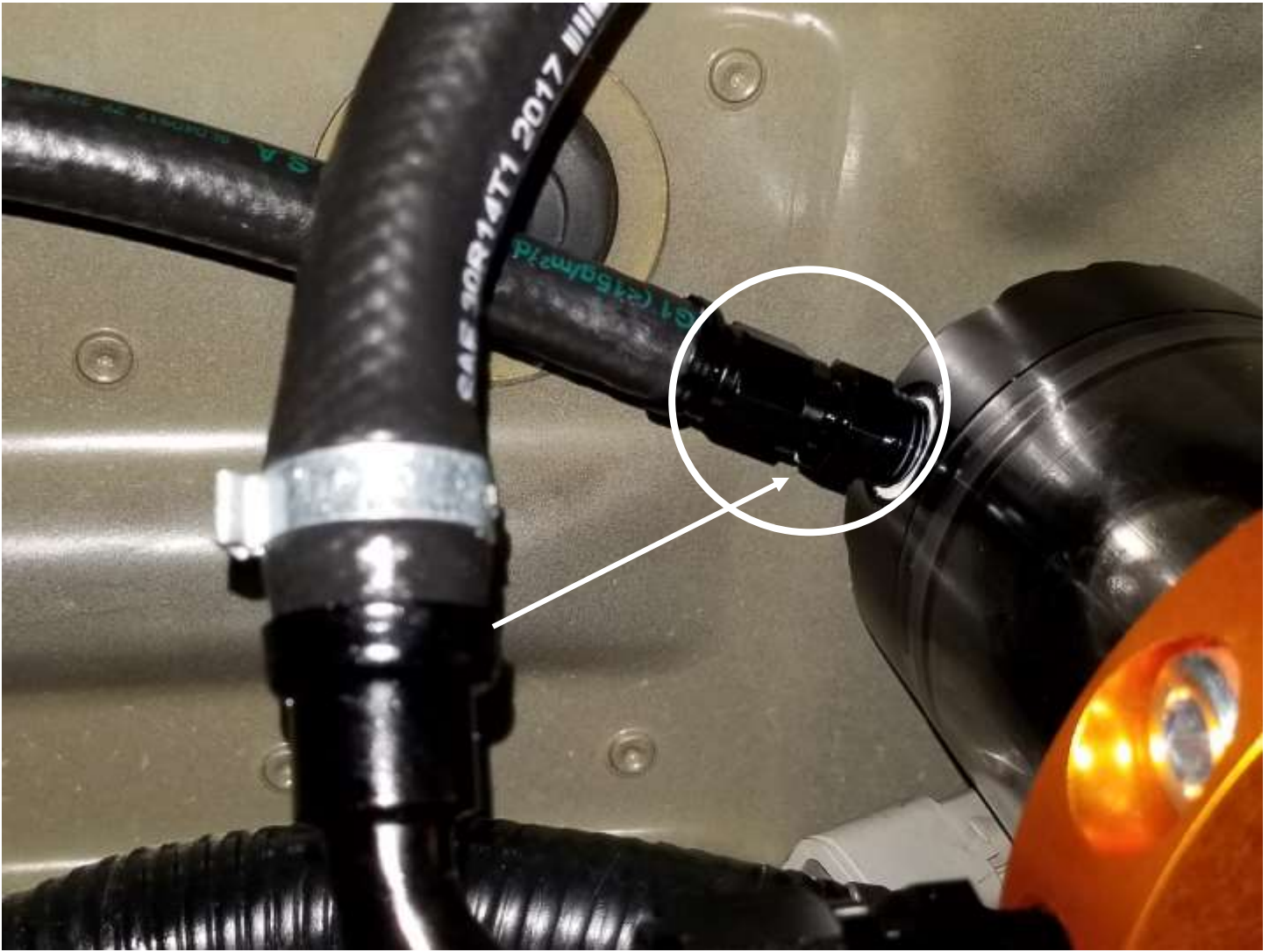
21. Install the 90° female quick disconnect fitting on the supplied fuel return hose (as shown below) onto the male side of the fuel cooler.





22. Install the male quick disconnect fitting in the fuel return hose (as shown below) into the female connection of the stock fuel return line.





23. Install the fuel return hose (-4 AN fitting) onto the top of the fuel manifold assembly.





24. Using the supplied nylon cable ties, secure the new hoses (as shown above).



25. From the inside of the frame, plug the weatherproof connector on the supplied power harness into the mating connector on the fuel manifold assembly.
26. Route the power harness along the inside of the frame towards the front of the vehicle.
27. Organize the wire harness and fuel lines and secure with the supplied nylon cable ties.



28. Run the other end of the power harness along the inside of the frame into the engine compartment.



29. Run the power across the front of the engine compartment using the supplied nylon cable ties to secure the wire.



30. Connect the red wire ring terminal on the power harness to the positive side of the battery.

NOTE: Check the fuse to make sure it is already installed in the connector.



31. Connect the black wire ring terminal on the power harness to the ground strap bolt located on the fender wall near the passenger side battery.



32. Plug the supplied relay harness into the weatherproof connector on the power harness.



33. Secure the relay harness using a supplied nylon cable tie.



34. Run the power wire down the fender well to the bottom of the body. Locate the rubber isolator in the floor pan on the passenger side. This is where the wire will enter the cab.



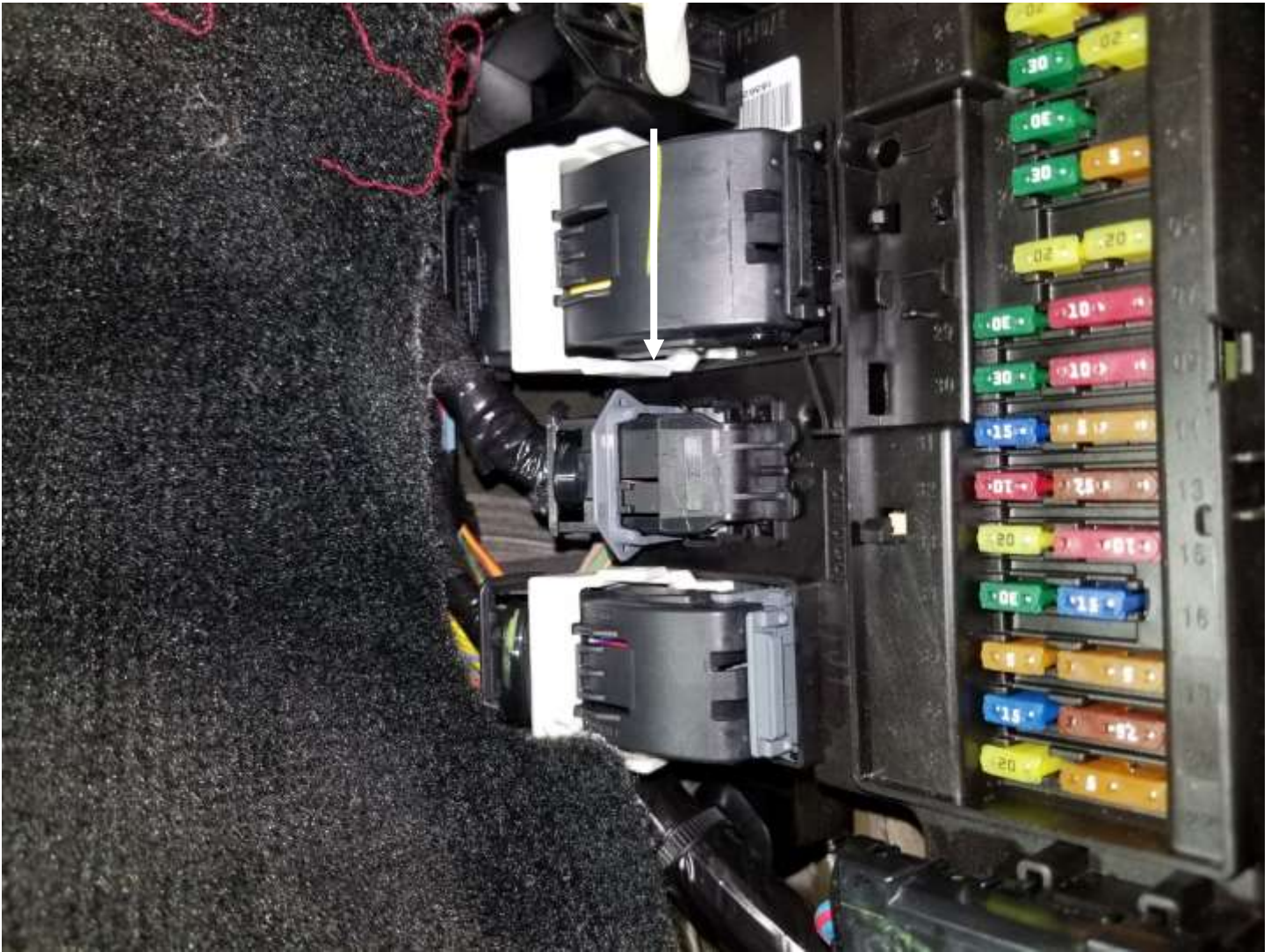
35. Remove the door sill cover by pulling it up.

36. Remove the kick panel cover by pulling straight back which will expose the fuses.



37. Pull the carpet up and locate the rubber isolator plug.

Note: You will need to cut a small hole in the isolator to allow for the wire to come through.



38. Locate the passenger side fuse box (located on the passenger side behind the kick panel removed in step #36).



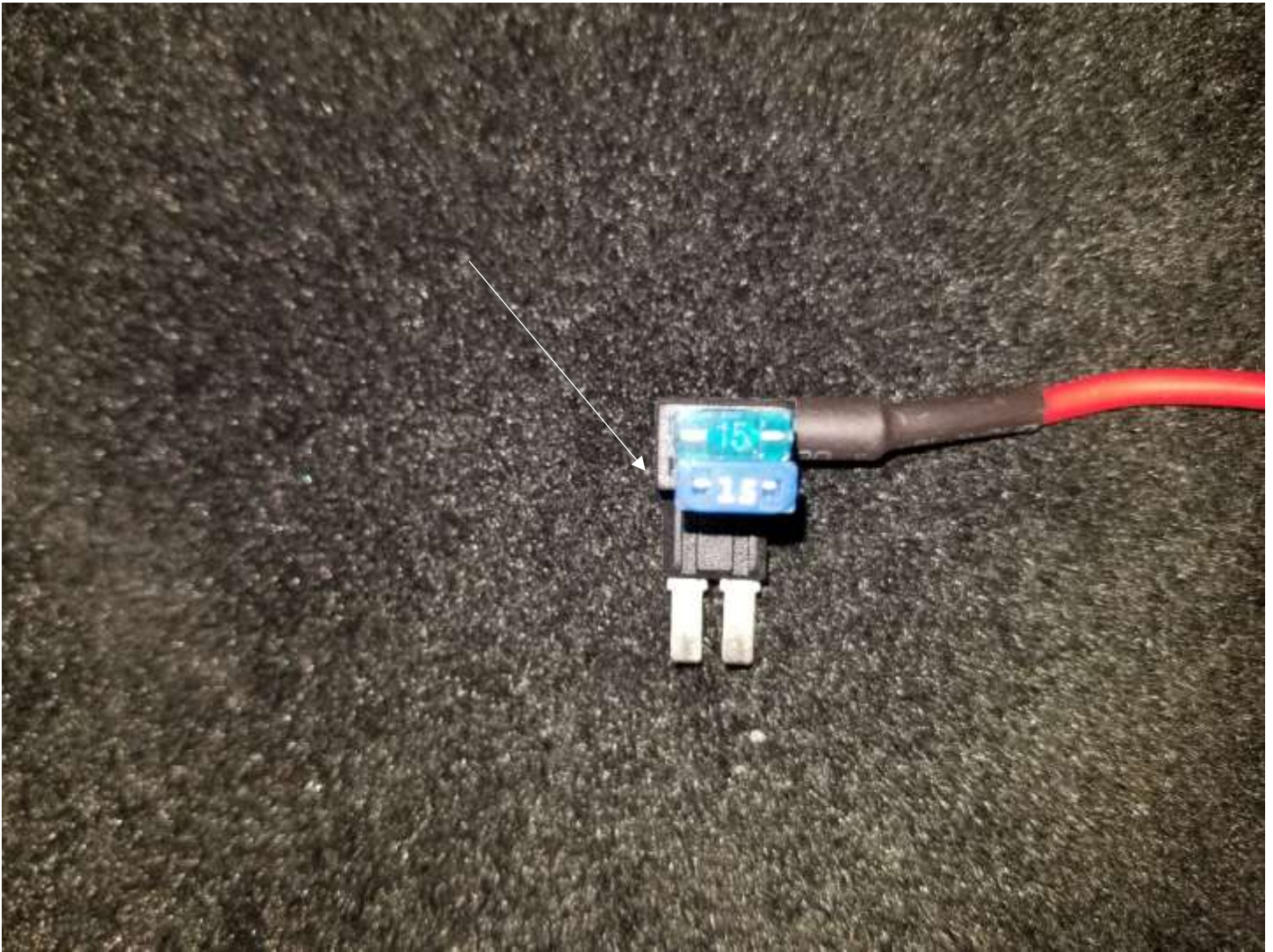
39. Attach the power wire from the relay harness to the add a harness fuse adapter.



40. Locate a 12-volt ignition source inside the fuse box that only comes on with the key in the “run” position. Once a 12-volt source is located, pull the fuse from the fuse box.

Locations for inline fuse adapter plug in:

2017- 36 Lane Keeping system etc....



41. Install the fuse removed in step #40 and insert it into the open location on the add a harness fuse adapter (not in line with the wire).



42. Install the add a harness fuse adapter (with installed fuses) into the 12-volt ignition source location chosen in step #40.



43. Lay the carpet back down.

44. Reinstall the kick panel.

45. Reinstall the door sill.



46. Turn the key to the “Run” position and watch to see if the sight glass fills with fuel. If the sight glass does not fill with fuel, use the tank valve (on the top of the sight glass cover) to release any trapped air. If the sight glass still does not fill, try starting the engine.
47. Installation is now complete. Make sure that all fittings are tight and that fuel is not leaking from any of the connections made while installing.



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