advanced FLOW engineering DFS 780

Instruction Manual P/N: 42-13021

Make: **Ford** Model: **F-250/F-350** Year: **2003-2007** Engine: **V8 6.0L (td)**
Fuel Pressure: **8-10 psi (relay controlled - supplements factory fuel pump)**
Make: **Ford** Model: **Excursion** Year: **2003-2005** Engine: **V8 6.0L (td)**

Label	Qty.	Description	Part Number
A	1	Fuel Manifold Assembly	05-60565
B	1	Filter, Fuel	44-FF019
C	1	Bowl, Water Separator	05-60487
D	1	Bracket, Frame; Carbon Steel	05-60554
E	1	Bolt, ½”-13 x 1.50”	03-50464
F	2	Washer, ½”	03-50494
G	1	Locknut, ½”	03-50495
H	4	Bolt, M6 x 1.0 x 50mm	03-50443
I	4	Washer, M6 (Fiber)	03-50457
J	4	Washer, M6	03-50444
K	4	Locknut, Flanged; M6	03-50445
L	2	Fitting; 3/8" NPT to AN -6 (Black, Straight)	05-60634B
M	1	Harness Relay	05-60551
N	1	Adapter, Fuse; Add a harness	05-60583
O	1	Hose, Fuel Return	05-60696
P	12	Tie, Nylon Cable, 12"	05-60167
Q	1	Harness, Power	05-60523
R	1	Hose, Fuel Inlet	05-60697
S	1	Hose, Fuel Outlet	05-60698

- 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.
- Do not attempt to work on your vehicle when the engine is hot.
- Disconnect the negative battery terminal before proceeding.
- Retain factory parts for future use

Warranty Information available at: https://afepower.com/contact#warranty


R
S
O
A
E
D
B
C
L
G
F
M
Q
J
I
K
H
N
P

Picture 2 (-8)

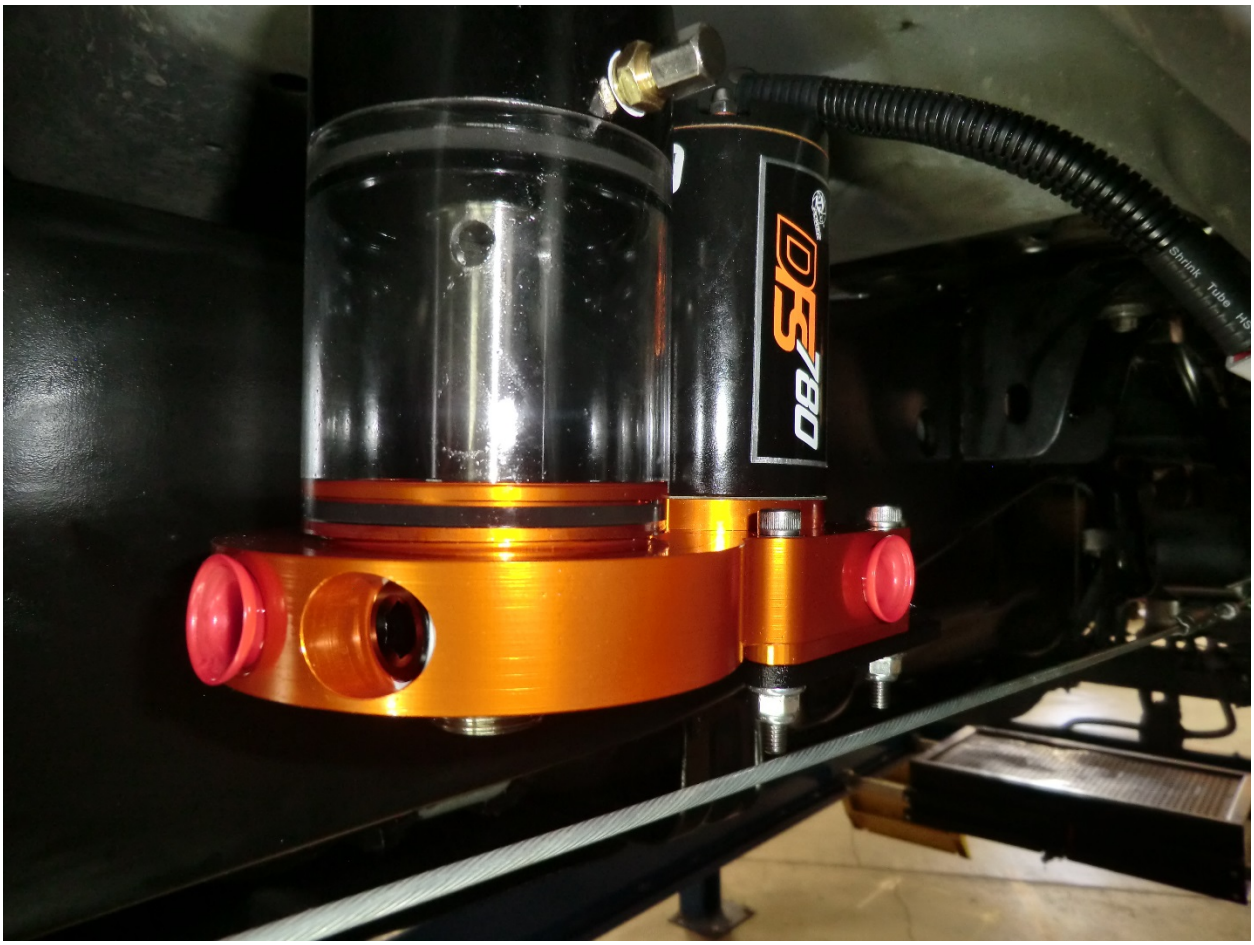
1. You will need to loosen the bed or drop the fuel tank to begin installation of the DFS780 Fuel System.

2. On the driver's side of the truck, under the rear door, you will see an oval hole. Use this hole to mount the supplied carbon steel frame bracket to the frame.

Picture #3 (-18)

3. Mount the carbon steel frame bracket to the frame with the supplied hardware and tighten.

    - (1) ½”-13 x 1.50” bolt
    - (2) ½” washers
    - (1) ½” locknut



Picture 4(-24)

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

    - (4) M6x1.0 x 50mm bolts
    - (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 bracket.

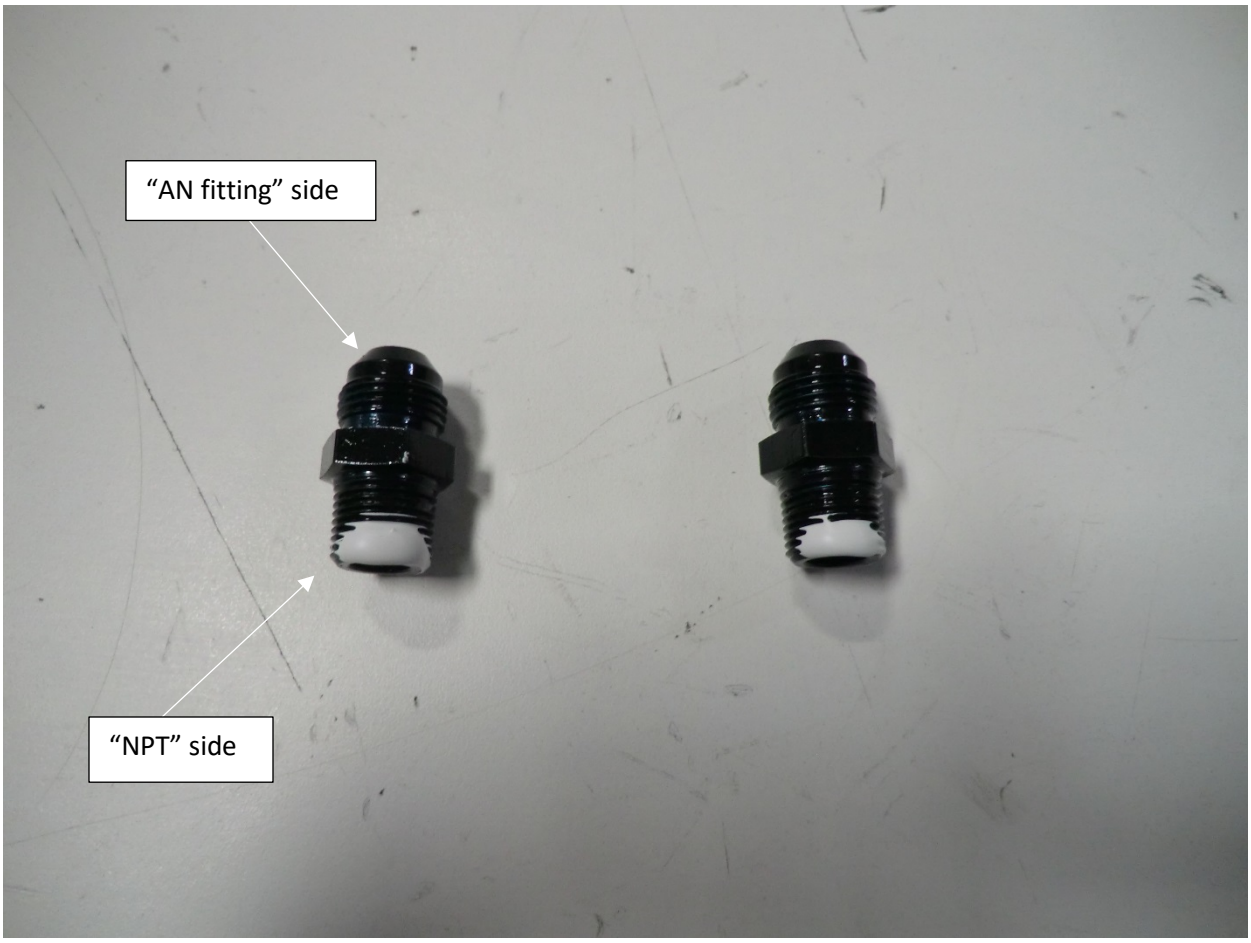
Picture 5 (-30)

5. 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.

Picture 6 (-255)

6. 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 onto the fuel filter.



Picture 7 (-254)

7. Apply Teflon tape with PTFE or Teflon paste with PTFE to the 2 x 3/8” NPT to -6 AN fittings.

<u>Note: Only apply Teflon to the NPT side of the fitting.</u>

Picture 8 (-86)

8. Install the 2 x 3/8” NPT to -6 AN fittings into the fuel manifold assembly (as shown above).

Picture 9 (-90)

9. Clean the area around the fuel lines to prevent dirt and debris from going into the lines.

Note: Picture taken from outside of frame looking towards passenger's side.

Picture 10 (-92)

10. Disconnect the fuel supply and the fuel return line.

Note: Picture taken from outside of frame looking towards passenger's side.

Picture 11 (-208)

11. Install the 90° female quick disconnect fitting on the supplied fuel inlet hose (silver 90° - 6 AN fitting - shown below) onto the male side of the stock fuel tank connection.

Picture 11-1 (223)

Note: Picture taken from the passenger side looking at the driver's side.

Picture 12 (-208)

12. Install the straight male quick disconnect fitting on the supplied fuel outlet hose (black 90° -6 AN fitting - shown below) into the female side of the stock fuel feed line.

Picture 12-1 (189)

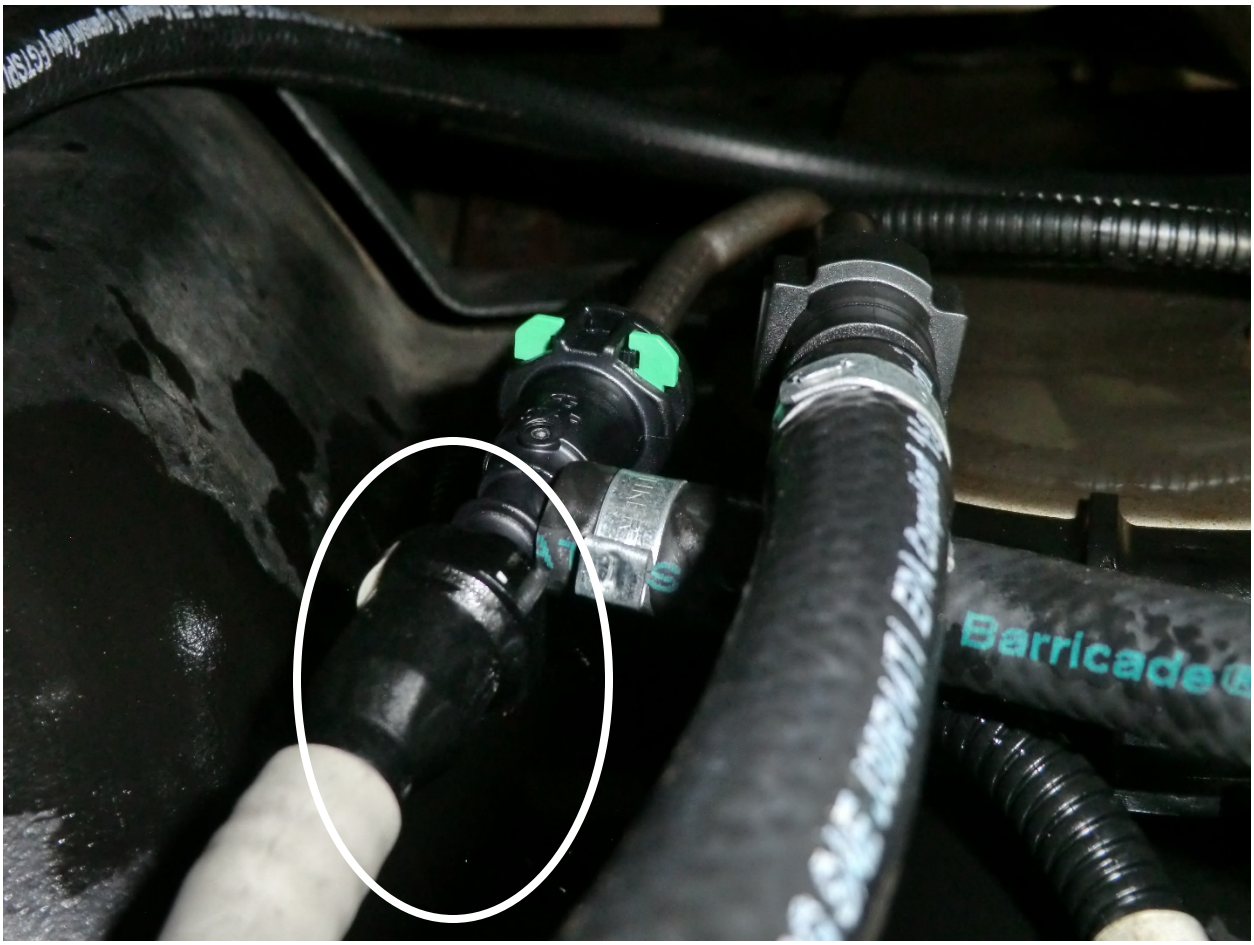
Note: Picture taken from the passenger side looking at the driver's side.

Picture 13 (-97)

13. Install the female side of the ”T” quick disconnect fitting on the supplied fuel return hose (shown below) onto the male side of the stock fuel return tank connection.
14. Lock the fitting.


Picture 13-1(-185)

Note: Picture taken from outside of frame looking towards passenger’s side.



Picture 14 (-106)

15. Install the factory female fuel return line onto the male side of the ”T” quick disconnect fitting on the fuel return hose (shown below).


Picture 14-1 (-185)

Note: Picture taken from outside of frame looking towards passenger’s side.


Picture 15 (-119)

16. Install the fuel inlet hose (90° silver -6 AN fitting) onto the male -6 AN fitting on the fuel inlet port of the fuel manifold assembly.

Picture 16 (-122)

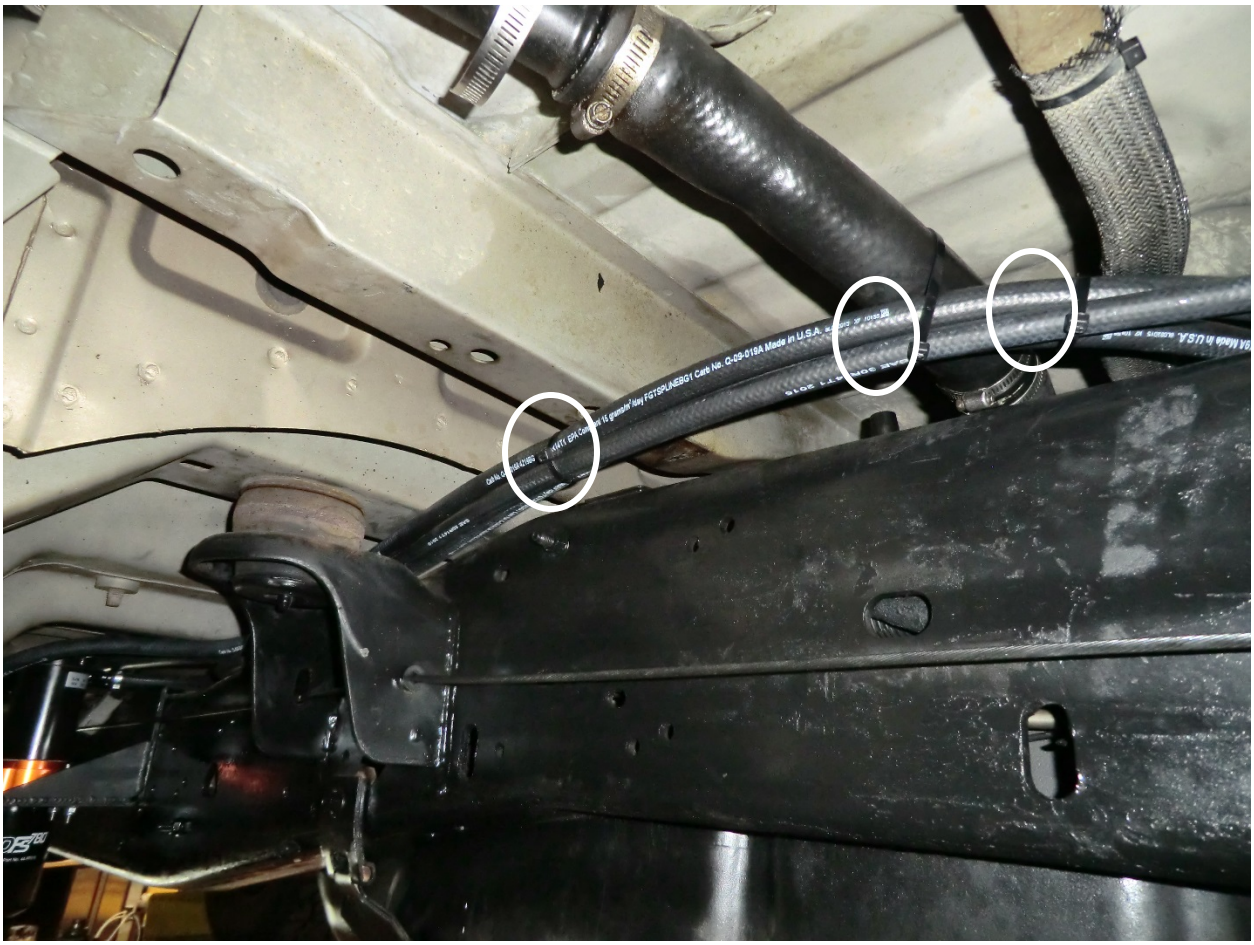
17. Install the fuel outlet hose (black 90° -6 AN fitting) onto the male -6 AN fitting on the fuel outlet port of the fuel manifold assembly.

Picture 17 (-215)

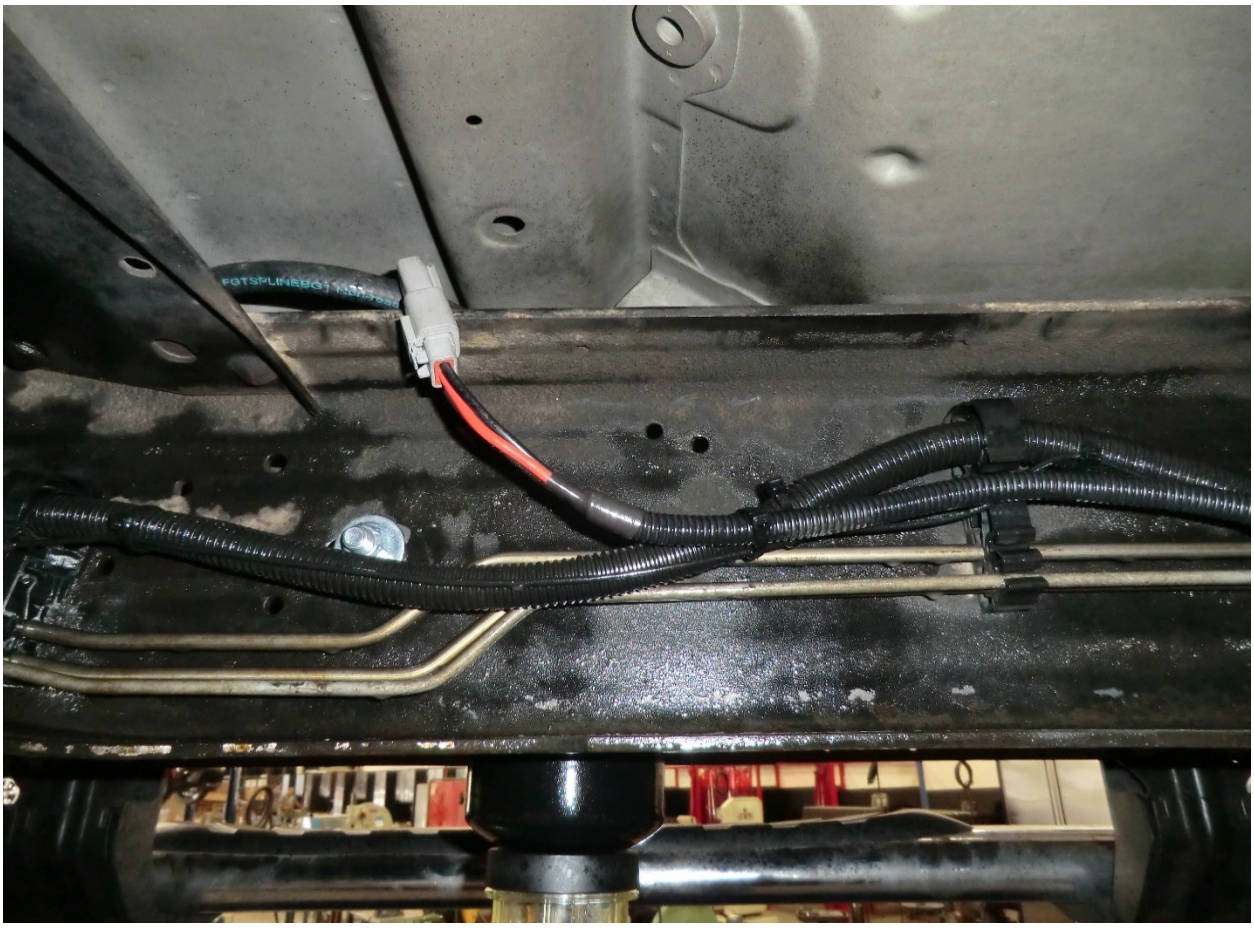
18. Install the fuel return hose (-4 AN fitting) onto male -4 AN fitting on the top of the sight glass cover.


Picture 18 (-212)

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


Picture 19 (-142)

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


Picture 20 (-145)

21. From the inside of the frame, plug the Deutsch connector on the supplied power harness into the mating connector on the fuel pump motor.

22. Route the power harness along the inside of the frame towards the front of the vehicle.

23. Organize the power harness and secure with the supplied nylon cable ties.

Picture 21 (-225)

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

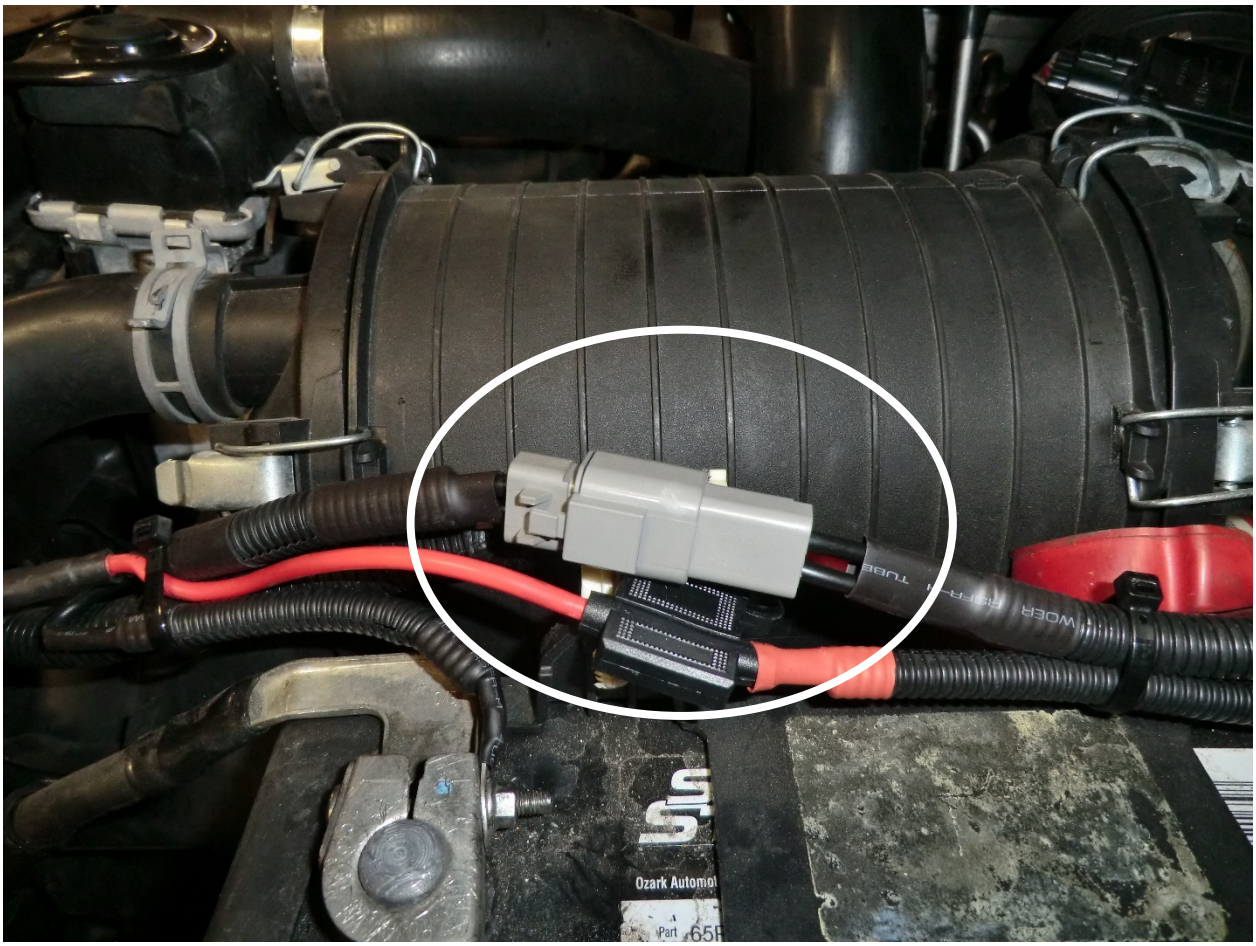
Picture 22(-227)

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

<u>NOTE: Check the fuse to make sure it is already installed in the connector.</u>

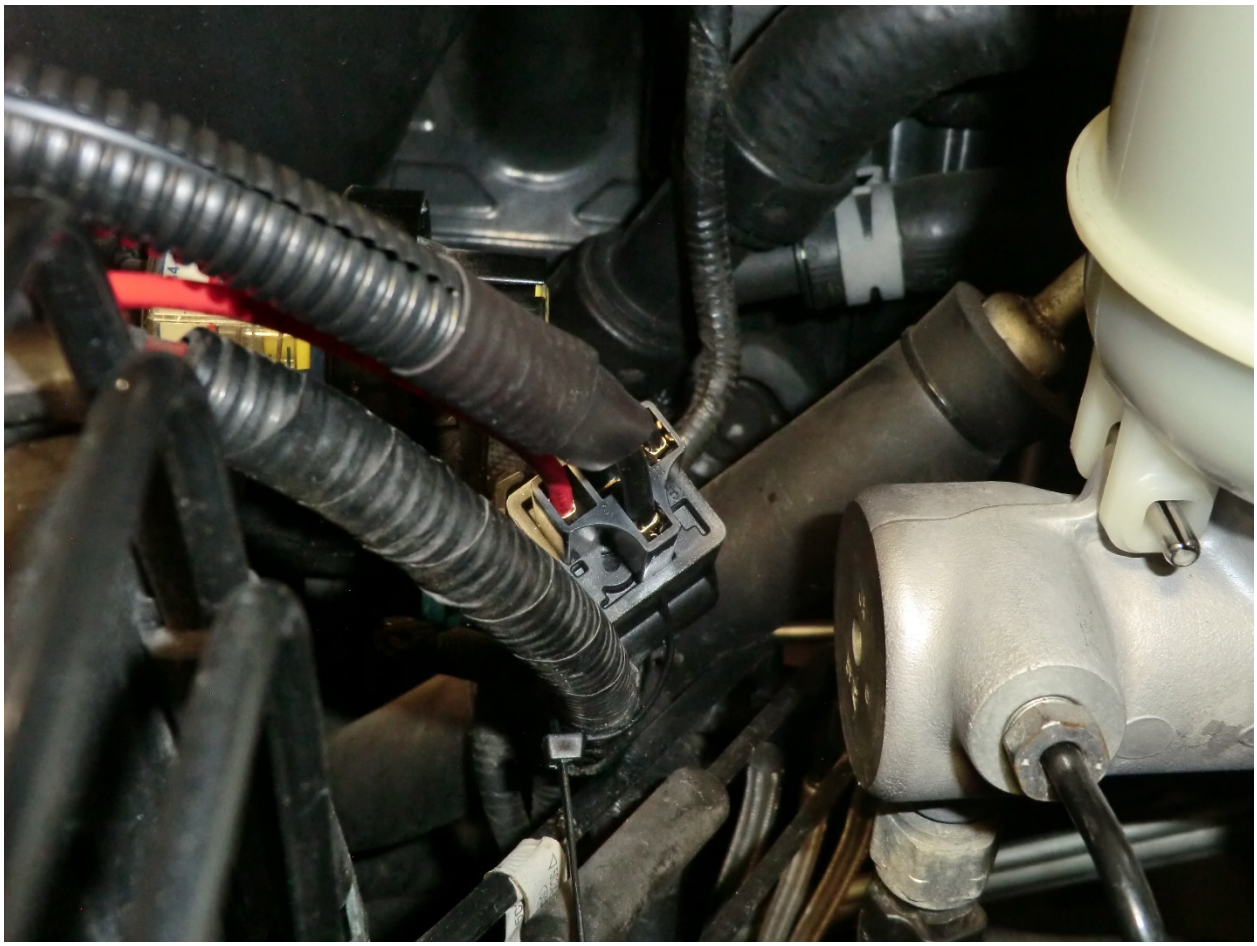
Picture 23 (-229)

26. Connect the black wire ring terminal on the power harness to the negative side of the battery.



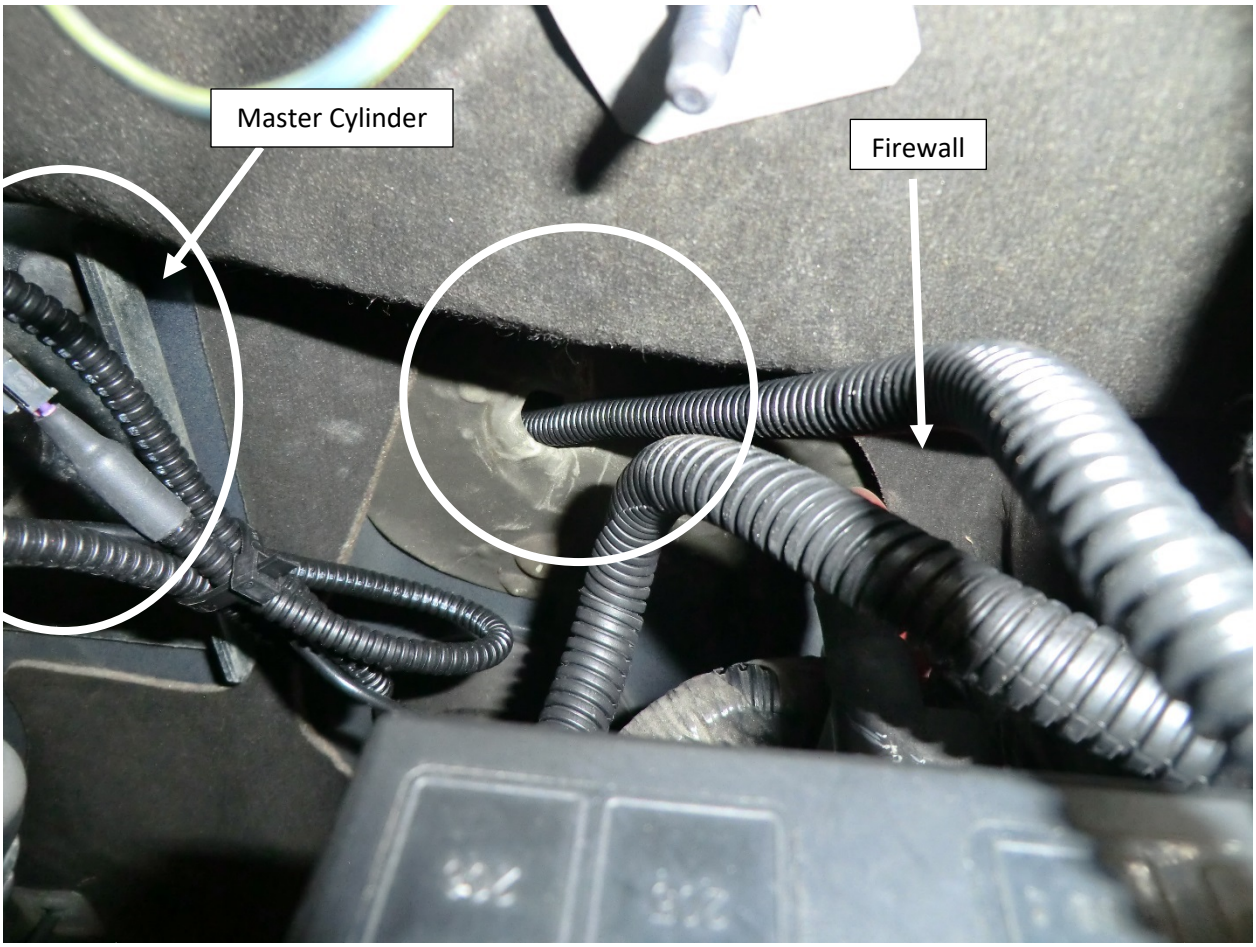
Picture 24 (-54)

27. Plug the supplied relay harness into the Deutsch connector on the power harness.



Picture 25(-58)

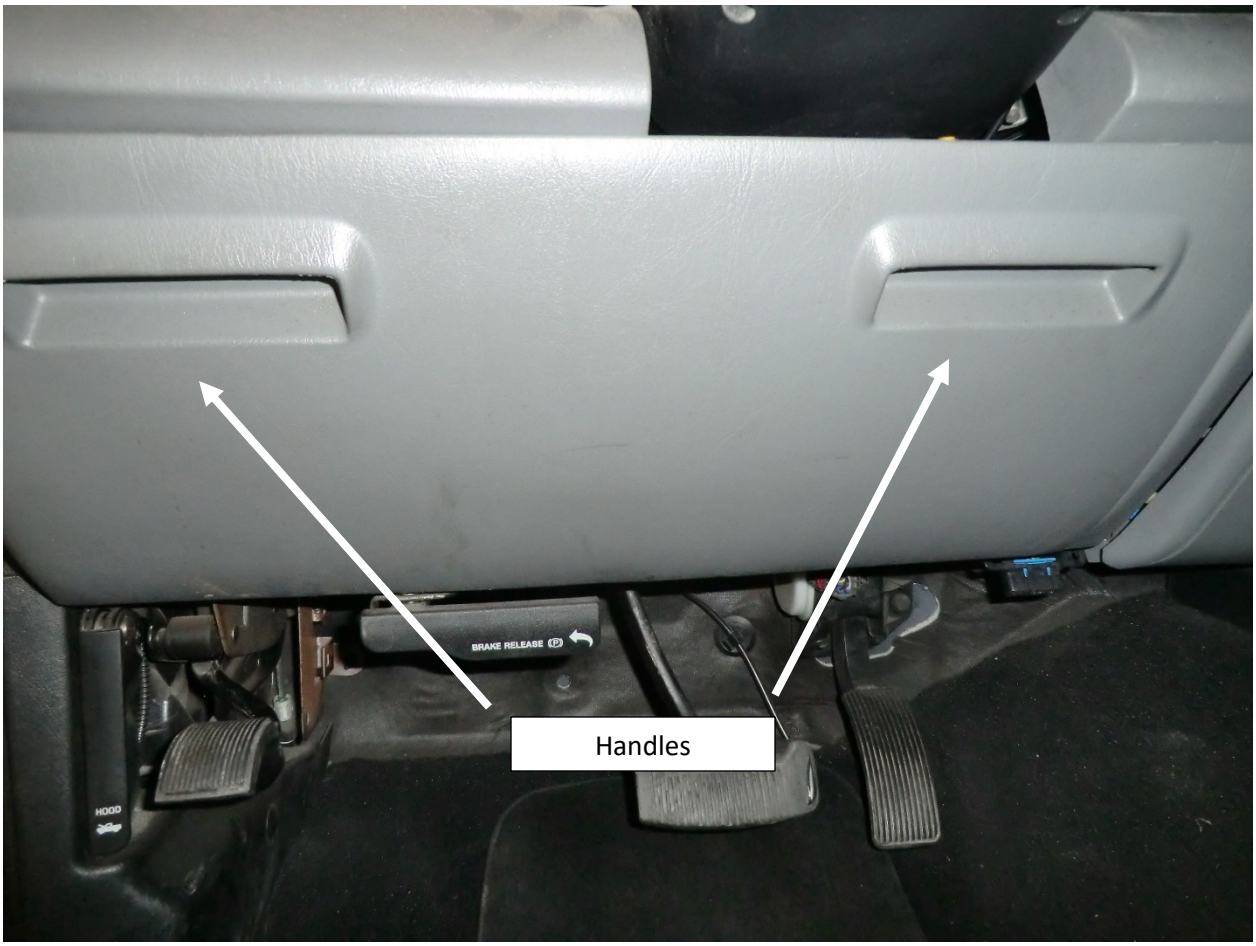
28. Secure the supplied relay using a supplied nylon cable tie.



Picture 26 (-55)

29. Run the relay power wire into the cab of the truck through the existing upfitter hole near the master cylinder.

Note: The hole may have a cover over it.

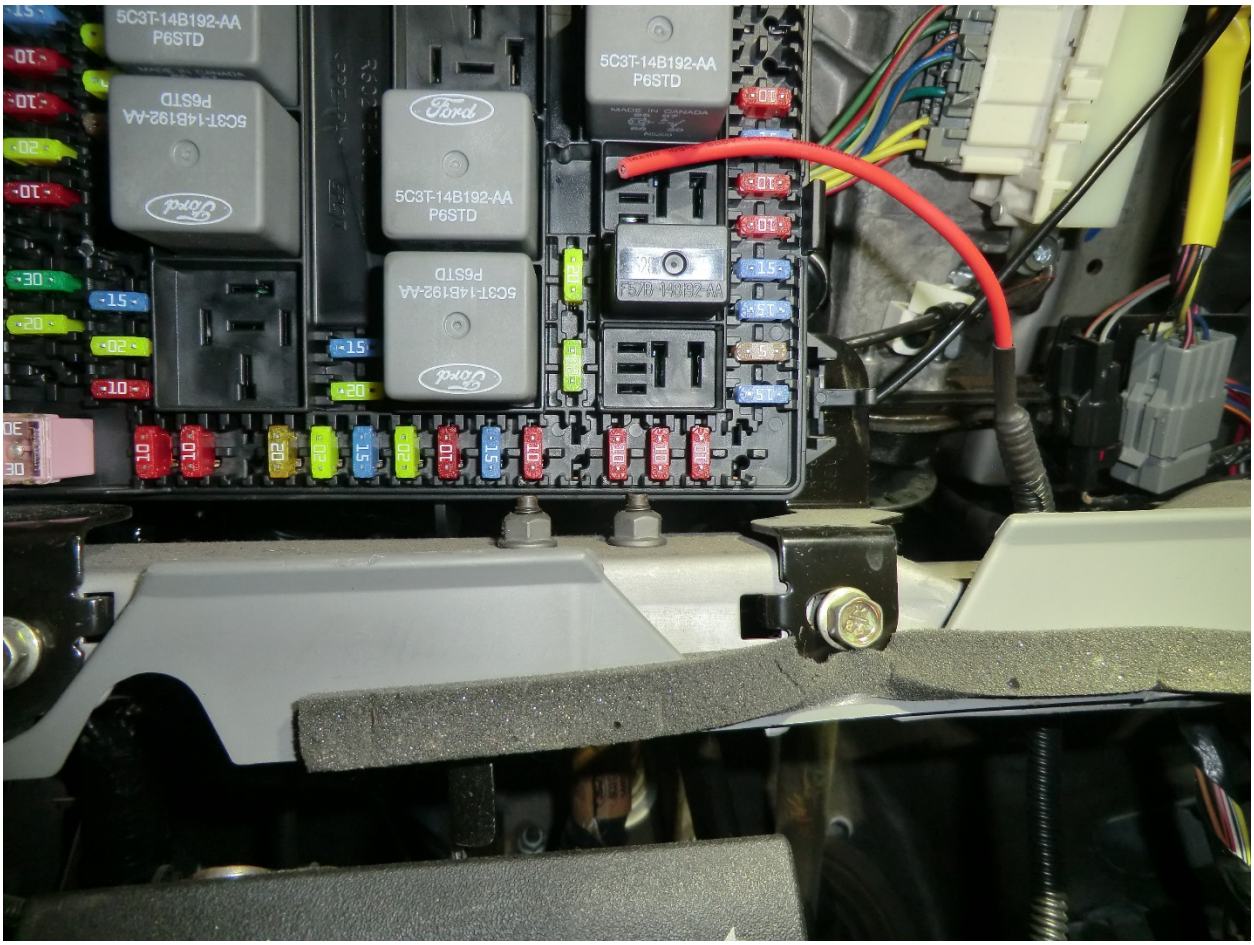


Picture 27 (-244)

30. Locate the panel under the steering wheel.
31. Remove the panel by firmly pulling using the handles.

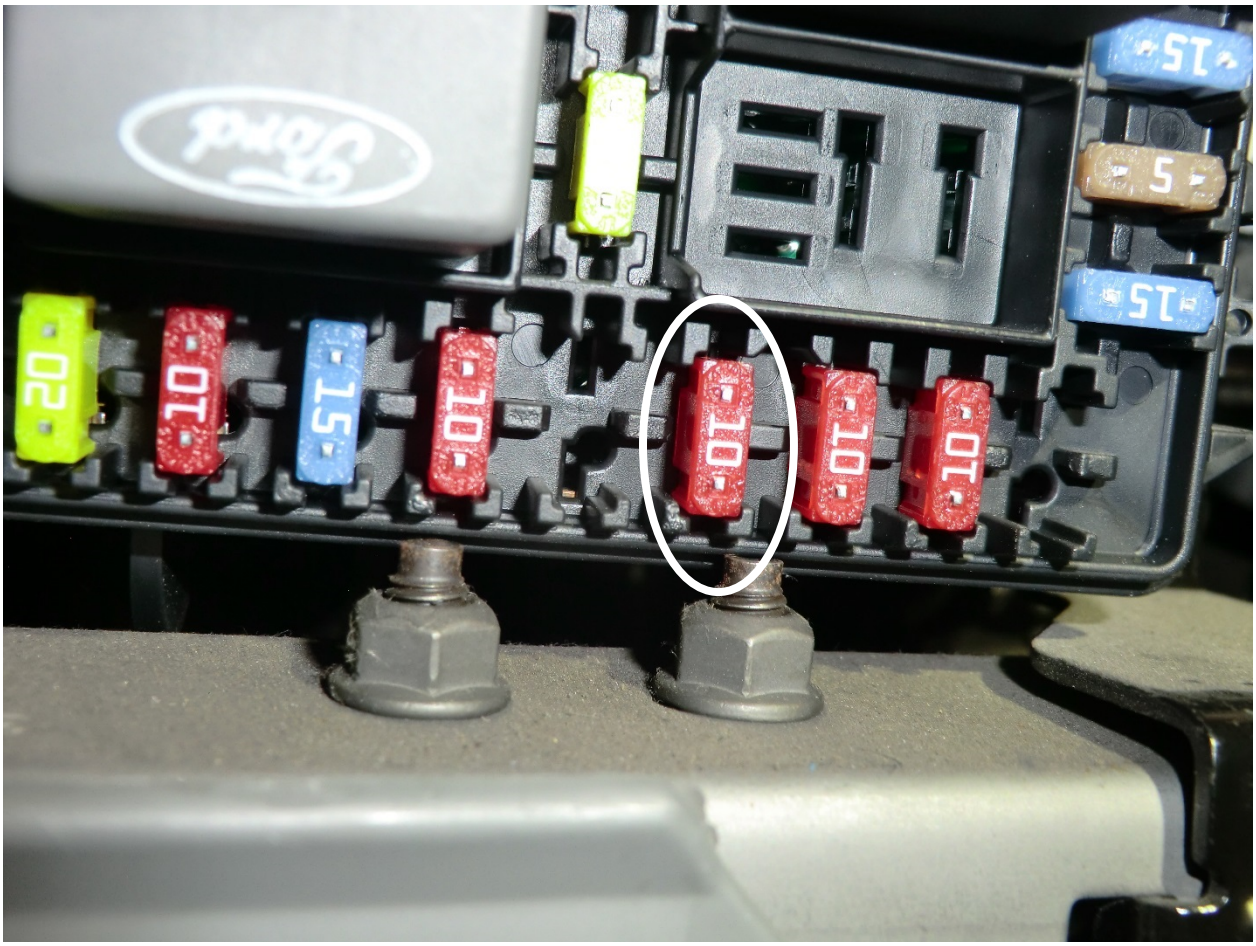
Picture 28 (-246)

32. Locate the under dash fuse box.



Picture 29 (-247)

33. Remove the cover from the battery junction box.

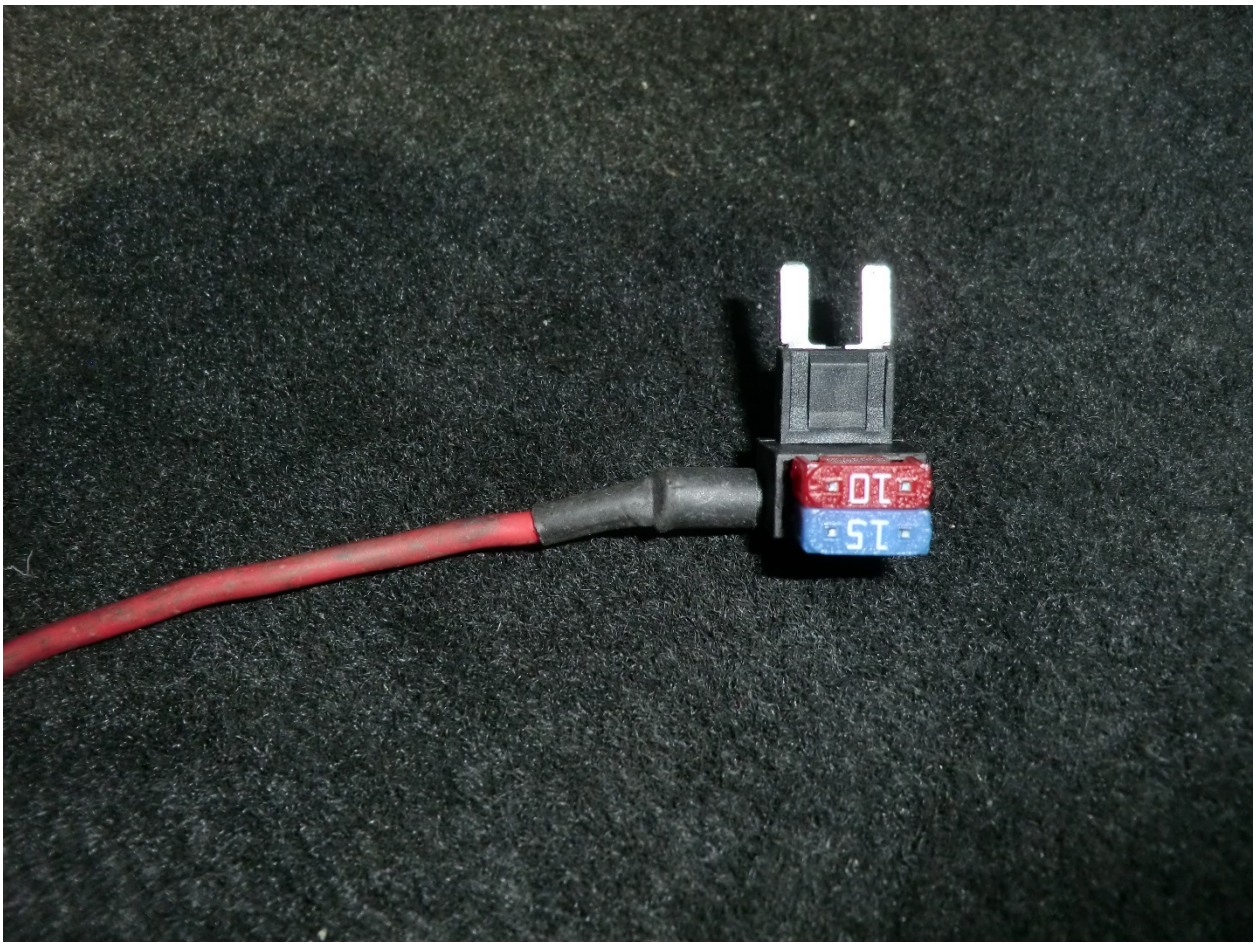


Picture 30 (-249)

34. Locate a 12-volt source inside the fuse box that only comes on with the key in the “run” position (see suggestion below). Once a 12-volt source is located, pull the fuse from the fuse box.

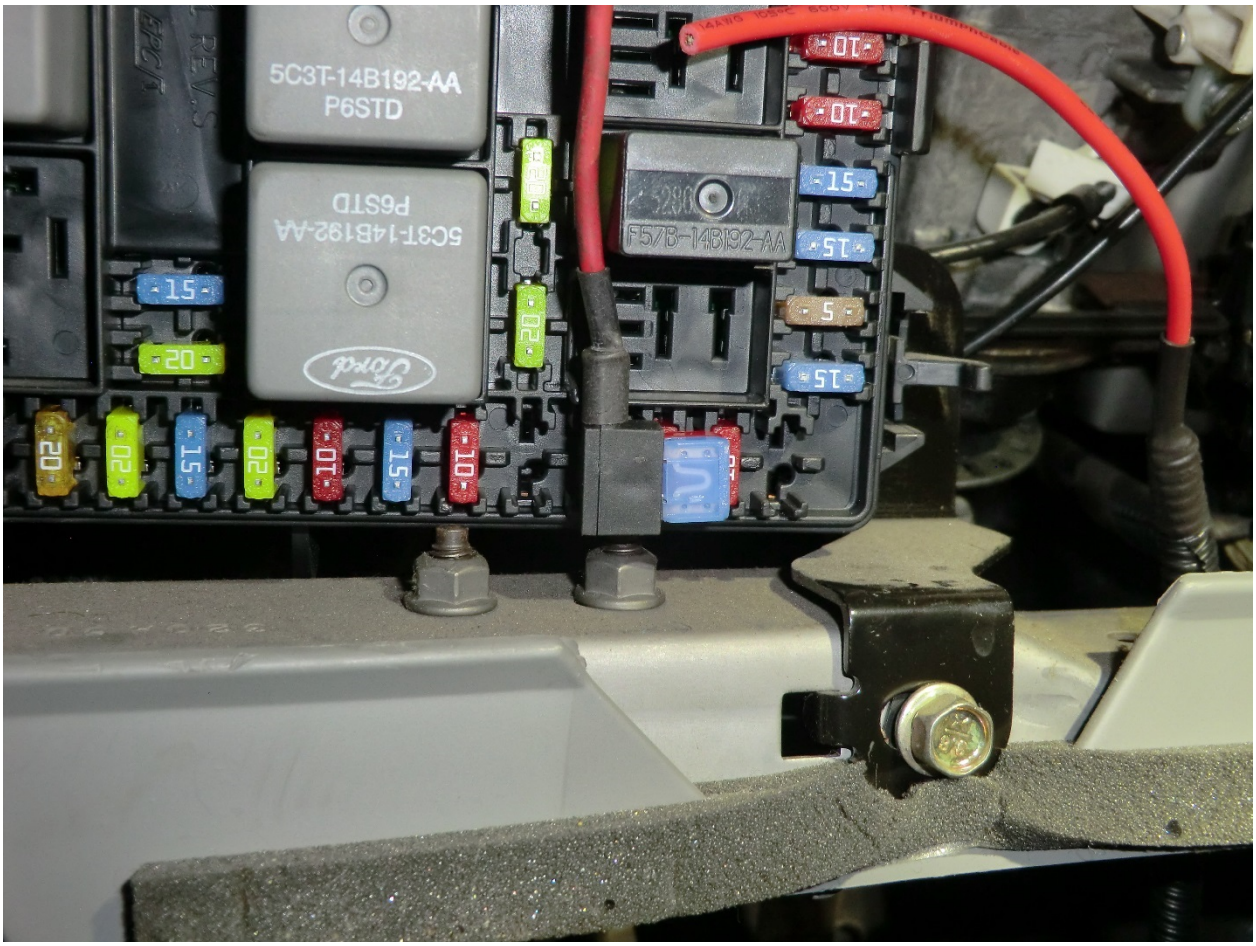
Locations for inline fuse adapter plug in (under dash fuse block):

2003 - 2007	#45	Ignition Run/START feed



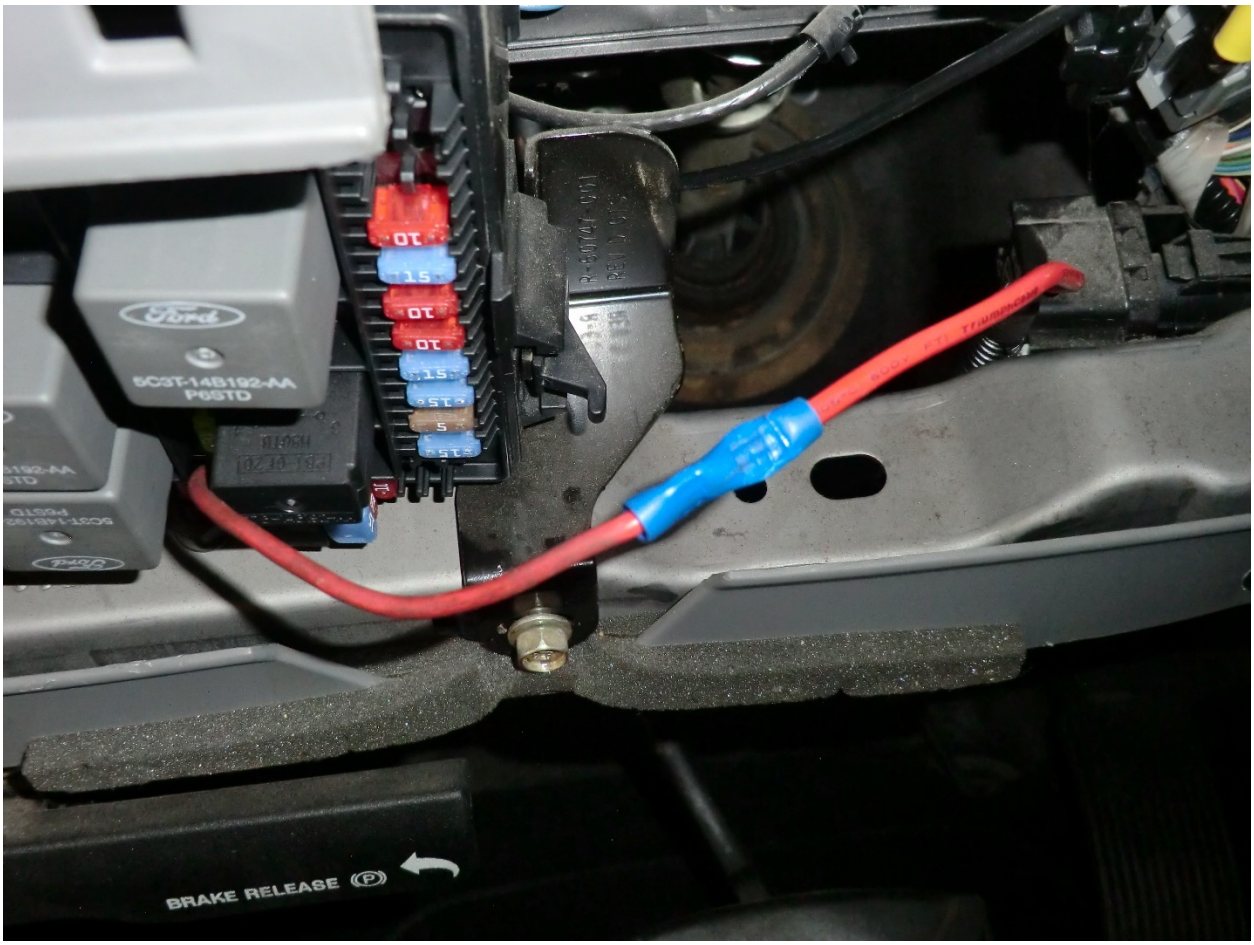
Picture 31 (-251)

35. Install the fuse removed in Step 34 into the open location on the supplied add a harness fuse adapter (not in line with the wire).



Picture 32 (-253)

36. Install the add a harness fuse adapter (with installed fuses) into the 12 volt source location chosen in Step 34.



Picture 33 (-52)

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

Picture 34 (-244)

38. Carefully route the power wire outside the fuse box and reinstall the battery junction box cover (making sure not to pinch the wire).

39. Organize the wire harness and secure with the supplied nylon cable ties.

40. Reinstall panel.

Picture 35 (-136)

41. 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.

42. 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.

NOTE: Place enclosed CARB EO sticker on or near the device on a smooth/clean surface. EO identification label is required to pass the smog test inspection.