



BULLET PROOF DIESEL[®]
.COM

INSTALLATION MANUAL

BULLET PROOF DIESEL OIL BYPASS KIT WITH 6.4L HALF KIT 2008-2010 F-SERIES

**NEAL TECHNOLOGIES, INC.
UPDATED 5/8/2014**

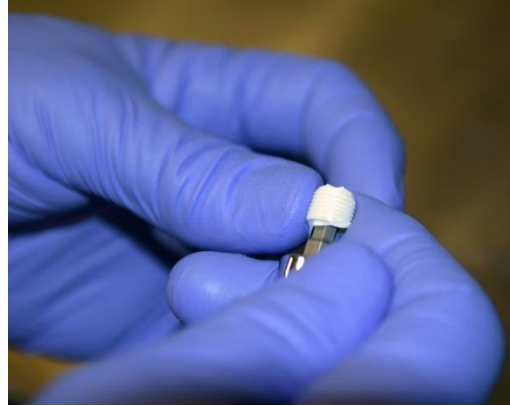
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These are the parts included in your kit. Please locate and identify each part prior to starting the installation process. There is an exploded view in the back of this manual that can aid you in identifying the proper pieces.

Part Number	Description	Quantity
6400028	#4 JIC to 1/8" MPT	2
6400056	#4 JIC to 1/8" MPT Swivel	1
6200016	5/16" Washer	4
6200014	5/16" x 1.25" Bolt	3
6000017	Bypass Oil Filter	1
6502074	Bypass Oil Filter Adapter	1
6200013	5/16" Lock Nut	3
90165022	Oil Fill Cap	1
6400087	#4 JIC 90° ORB (O-ring boss)	1
6400055	1/8" Brass Pipe Plug	2
90100071	Oil in hose 31 inch length	1
90100070	Oil out hose 57.5 inch length	1
6502214	6.4L Oil Bypass Bracket	1
6200127	3/4" Loop Clamp	1

Installation Stage 1: Assembling the Bypass Oil Filter Bracket

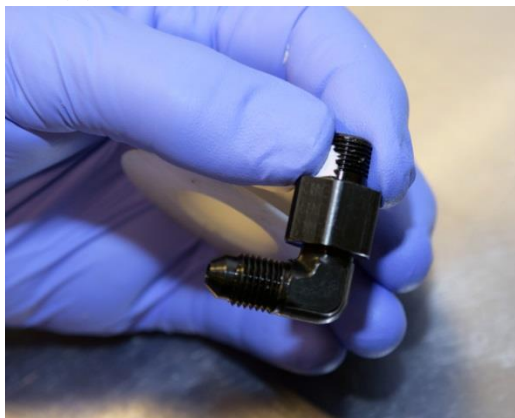
1. Apply pipe-sealing tape to:
 - a. Two (2) 1/8" brass pipe plugs.



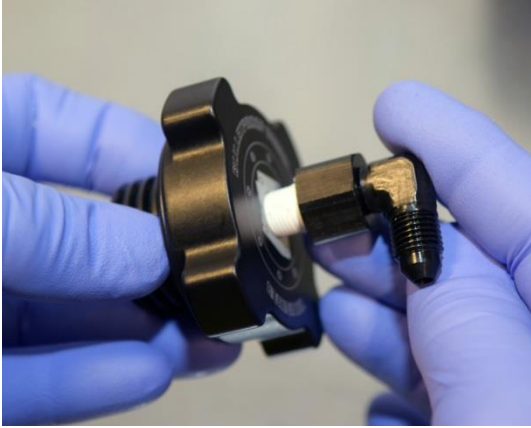
- b. Two (2) #4 JIC to 1/8" MPT fittings.



- c. One (1) #4 JIC to 1/8" MPT 90° swivel fitting.



2. Install the 90° swivel fitting into the Bullet Proof Diesel oil fill cap.



3. Assemble the oil bypass filter adapter and bracket.

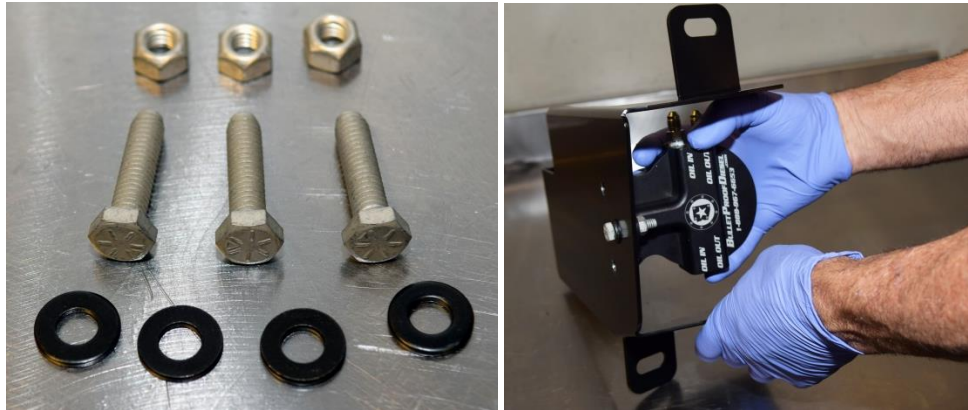
- a. Install the two (2) 1/8" brass pipe plugs.



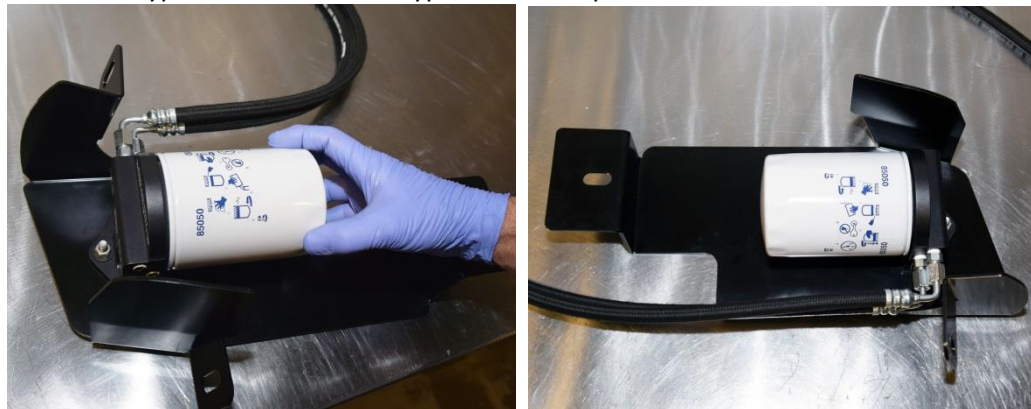
- b. Install the two (2) #4 JIC to 1/8" MPT fittings.



- c. Using the supplied hardware, assemble the oil bypass filter adapter to the bracket.



- d. Install the "oil in" hose (31 inches) to the "oil in" port.
e. Install the "oil out" hose (57.5 inches) to the "oil out" port.
f. Install the bypass filter to the oil bypass filter adapter.



Installation Stage 2: Preparing for Installation

4. Remove the passenger side headlight assembly.



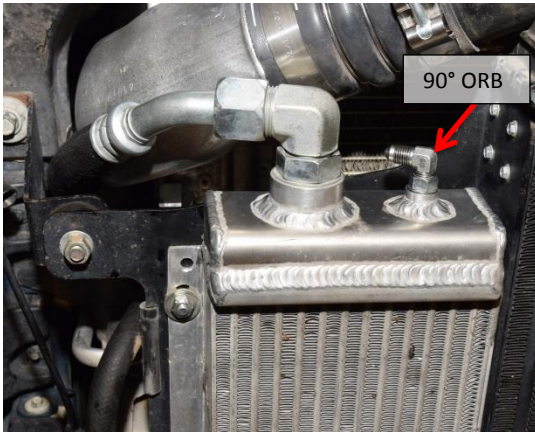
NOTE: Please remove ALL four (4) screws before attempting to remove headlight assembly. Failure to do so can result in damage to the headlight and assembly.

5. Temporarily install the oil bypass filter assembly into the truck. Check for fitment.



NOTE: DO NOT tighten down oil bypass filter assembly at this time.

6. Install the 90° ORB (O-ring boss) fitting into the top of the Bullet Proof Diesel 6.4L half kit oil cooler. DO NOT over tighten.



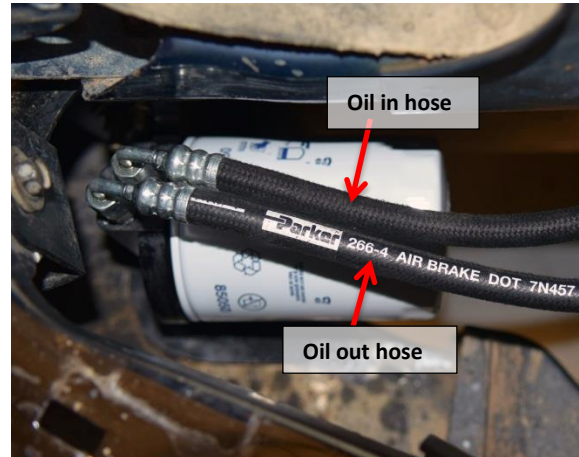
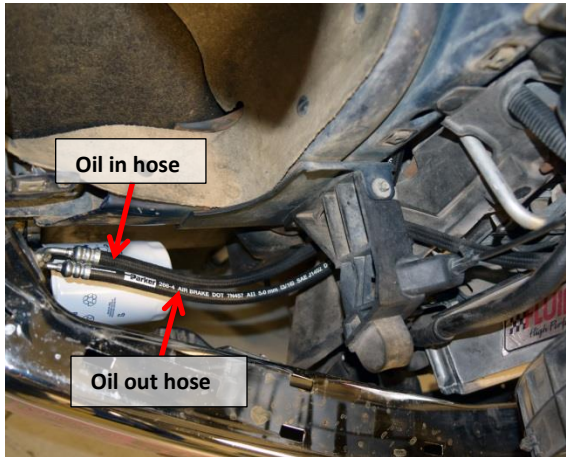
NOTE: NO pipe-sealing tape is needed on the 90° ORB (O-ring boss) fitting from the 6.4L half kit oil cooler.

7. Remove the stock OE oil fill cap.
8. Install the Bullet Proof Diesel oil fill cap with 90° swivel fitting pre-installed.

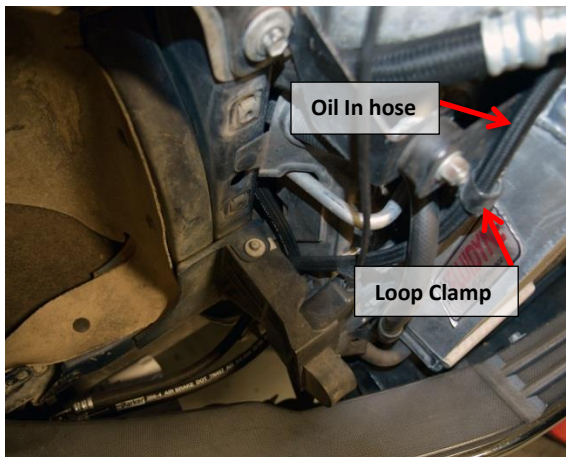


Installation Stage 3: Routing the Oil Hoses

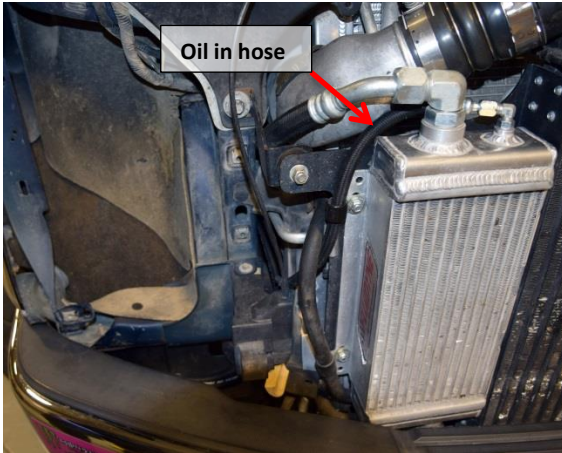
9. Route both the “oil in” and the “oil out” hoses from the bypass assembly, in between the radiator and hood latch release.



10. Route the “oil in” hose. This is the hose furthest from the truck bumper.
 - a. Bring the “oil in” hose up to the loop clamp on the side of the Bullet Proof Diesel 6.4L half kit oil cooler, and secure.



- b. Bring the “oil in” hose to the back side of the main (larger) outlet on the half kit oil cooler. Next, connect the “oil in” hose to the ORB (O-ring boss) fitting on the 6.4L Bullet Proof Diesel half kit; the smaller bypass outlet to the right of the main outlet.



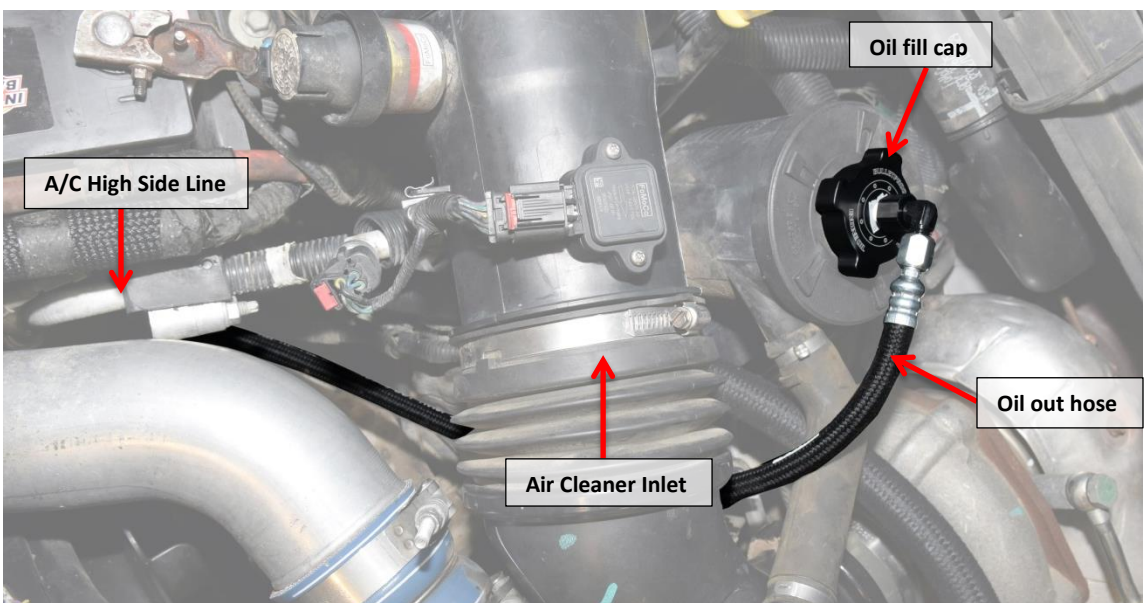
NOTE: Ensure the 90° fitting is not in contact with the air charge cooler inlet tube, or the main oil cooler outlet.

11. Route the “oil out” hose. This is the hose closest to the truck bumper.

- a. Following the outside of the A/C high side line, route the hose past the radiator to the inside of the engine compartment.

NOTE: This is important to avoid contact and interference with the alternator.

- b. Staying on the outside of the A/C high side line, route the hose between this and the battery box. Next, bring the hose under the air cleaner inlet and up to the Bullet Proof Diesel oil fill cap.



12. Securely install the “oil out” hose to the Bullet Proof Diesel oil fill cap.



13. Ensure oil bypass bracket assembly is properly tightened down, then start the engine and check for leaks.

14. Reinstall the passenger side headlight assembly.



