N47/N57 CP4 Disaster Kit Installation Instructions

Foreword:

During the installation of this kit your engine's high pressure fuel system will be open and exposed to some degree, it is important to be mindful of this at all points during the installation process. Use caps and/or plugs to cover any fuel system openings during the install process, cleanliness is number one priority. Before you begin installation, use compressed air or brake clean to blow out all hoses and fittings included with the kit and visually inspect to ensure that all hoses and fittings (including the bypass block) are free of any particles or debris that may have entered during shipping and handling.

Kit Contents:

1x WPI Bypass Block

6x Fuel Injection Hose Clamps

2x M5x30mm Socket Head Cap Screws

1x Large O-ring

1x Small O-ring

1x Hose standoff (small cut piece of fuel hose)

3x Zip ties

1x Stainless Barb T fitting

1x Inline Fuel Filter

2x Fuel injection Hose

NOTE: *Previous versions of this kit included a threaded o-ring sealing plug that was used to plug the cross drilling on the bypass block. All kits purchased on or after 9/20/2025 will no longer include this and will instead have an updated bypass block that uses a pressed in, permanent sealing plug that will come pre-installed in the block.*

Basic Install Summary:

If at any point you are confused about which line is which and what goes where, look at the back of the CP4 where the rubber lines attach. The inlet/outlet ports on the CP4 are labeled with cast in triangles on the pump body indicating flow direction (Triangle pointing into the pump body is supply, triangle pointing out of the pump body is return)

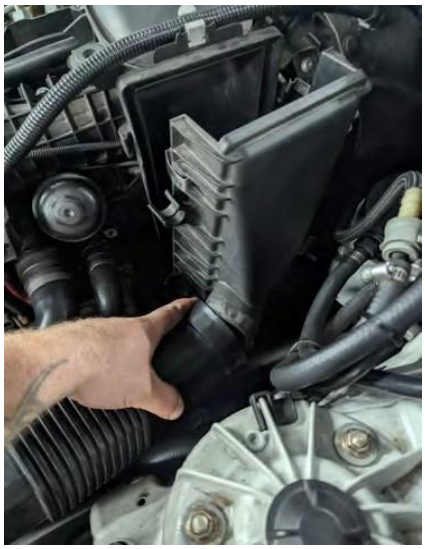
Follow the inlet (fuel supply) hose back to a convenient location between the vehicle's fuel filter and the pump and cut it for the stainless T fitting to feed the bypass block. Follow the return hose leaving the pump and cut it anywhere convenient (generally as close to the pump as possible) to install the filter with "inlet" facing the CP4 (flow direction arrow pointing away from CP4 on Deatschwerks filters).

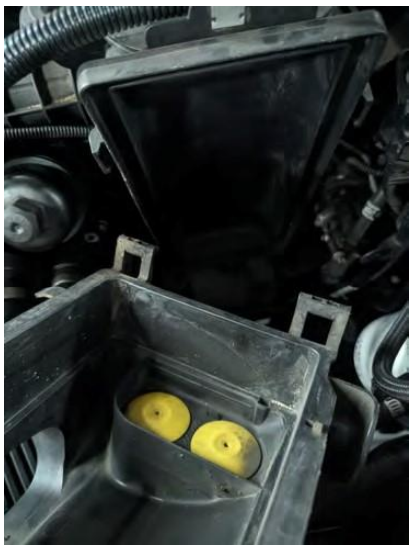
That's the install summed up as simply as possible, regardless of application.

N47/N57 Specific Instructions:

(BMW F10 N57 shown in photos, Courtesy of SSK Side Shop Kreationz)

1. Remove air filter.
Pull the two lock tabs, one front, one rear side. Then slide air filter out the top, place aside.
Remove the air box outer lid.
Slide off the intake tube while lifting off the locating tabs then place aside.
Note locating tabs on bottom of outer lid, make note when re-installing to ensure these are properly located on the inner air box hosing so the box seals tight to the filter.



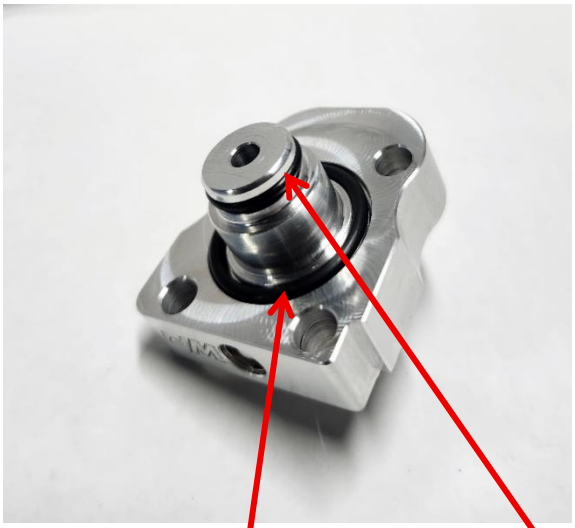


2. Locate the fuel pump metering solenoid connector and depress the locking tab to unplug. Sometimes a little pressure in while depressing the tab allows easier removal of the connector.

3. With connector unplugged you can now see the upper metering valve bolt. Remove the two bolts from the metering valve located at the 11 o'clock and 4 o'clock position using a T25 torx bit. I removed the top one first then wiggled the fuel line up on top of the sensor out of the way to get the lower. You probably won't be able to see the lower bolt, but careful use of a torx bit and 3" extension with a spare finger on the bolt helps to locate and remove it. Set these bolts aside, they won't be reused. Remove metering valve/regulator with a little wiggle.

4. To set up the bypass block for installation, install the shorter of the two included lengths of 3/8" fuel line onto the barb on the block with a clamp loosely fitted.
Lube the OEM metering valve O-ring with fuel or grease and install the metering valve into the block. Orient the hose clamp on the fuel line for clearance and tighten.

5. Install the two included O-rings onto the bypass block. A little grease placed into the groove for the larger O-ring helps hold it in place during install.
Lube both O-rings as done with the metering valve to ease install.



Large O-ring

Small O-ring

Grease dabs in large O-ring groove

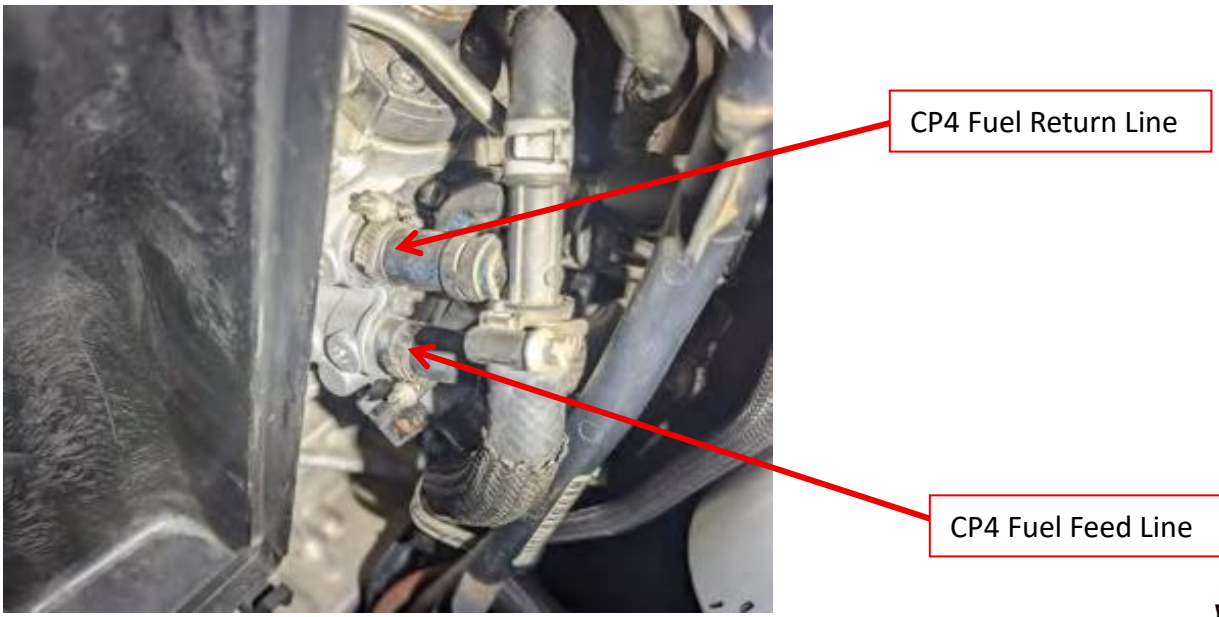
6. Pack the port in the pump with clean paper towel or shop rag to ensure no debris enters the pump. Use a razor blade, brake clean, and a clean rag to carefully clean the entire machined area on the top of the pump. When done, remove the paper towel, ensuring not to drop any debris it may have caught into the pump when doing so.

(Pump photos below are of a 2.0L VW TDI CP4, shown only to illustrate cleaning of the metering valve mounting surface)

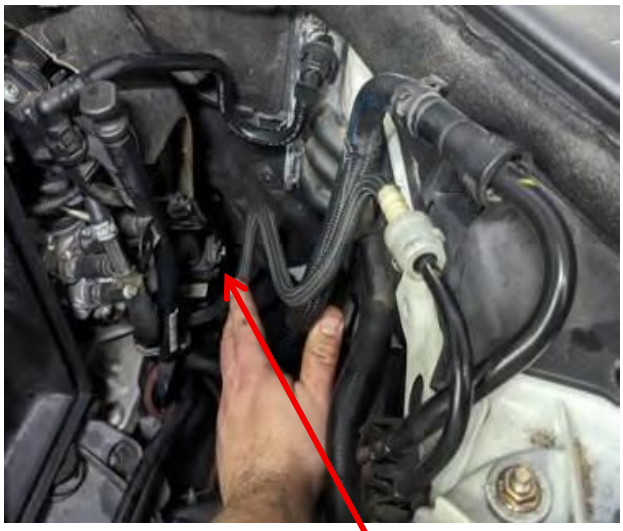


7. Apply anti seize to the threads of the two M5 socket head cap screws included with the kit. Install the bypass block into the pump, ensuring that the large O-ring stays in place while doing so (the hose will be to the left side (front of car)). Install the two M5 cap screws through the metering valve and block into the pump and tighten with common sense. If your wrist isn't calibrated, 4nm is the recommended torque spec for these screws.

8. Loosen the hose clamp on the feed line of the CP4. The lower line on the CP4 pump is the fuel feed. The upper is the fuel return which has a 4-way fitting that connects to the fuel rail return line, and the smaller injector return line. Remove the fuel feed line from the CP4 (lower hose).



9. Follow the fuel feed line from the CP4 to locate the fuel feed sensor, then unplug the sensor. Below is a close-up of the sensor plug. It has a grey locking tab. Slide the tab up, then you'll be able to depress the tab and unplug it.



Fuel Feed Sensor Location

Locking Tab

10. Continue following the feed line up to the inner fender well. Locate the gray connector on the feed line and disconnect it from the hard mounted line. Depress the two locking tabs then unplug. A little pressure pushing it together then clicking the tabs to release helps here. Remove the fuel feed line and sensor assembly, carefully snaking it through everything and take it to the bench. This is mostly a hard plastic line so be careful not to kink or bend it during the removal.

Feed Line Connector

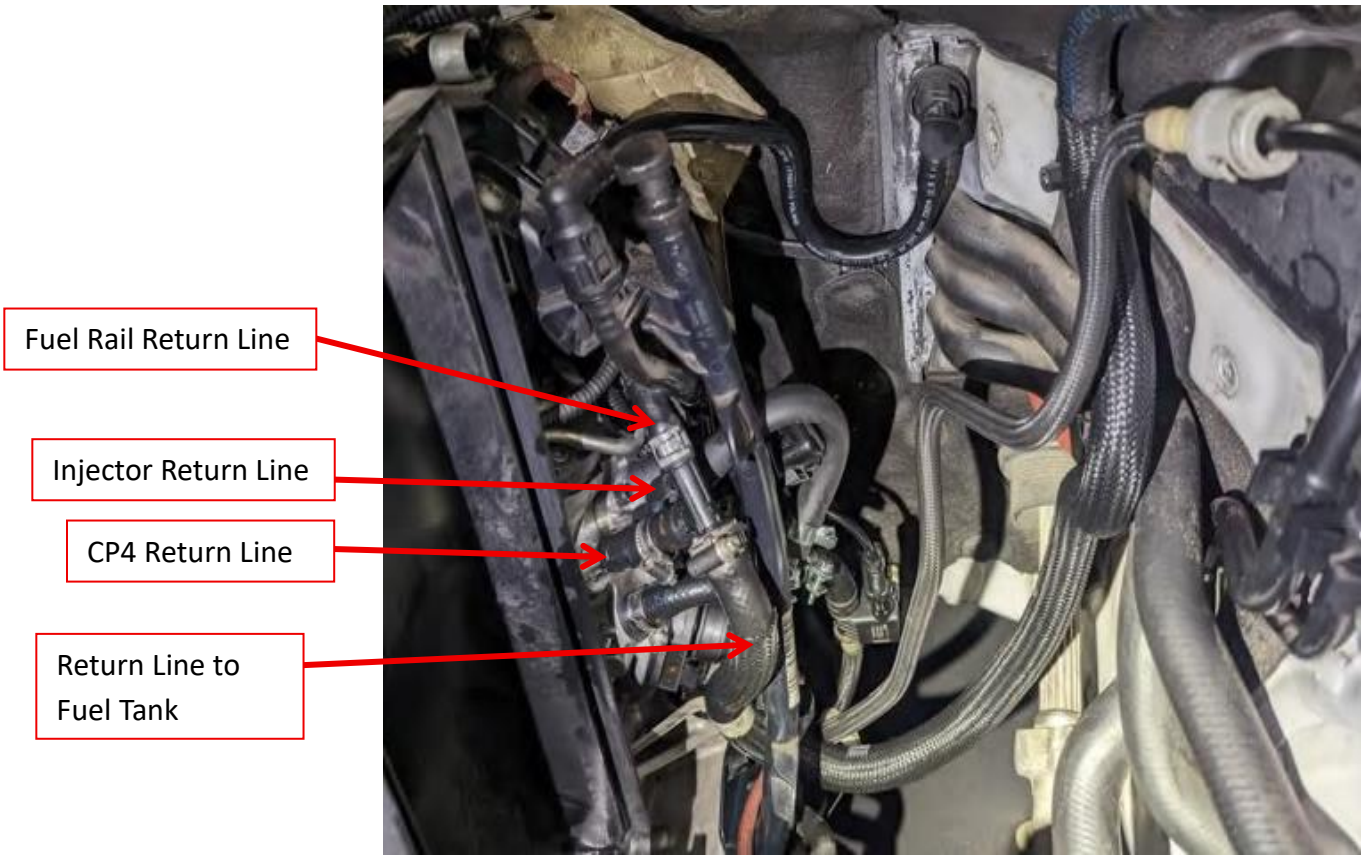
11. Cut the rubber hose side of the line that connects to the CP4 in the approximate middle (shown below) and install included stainless barb T fitting and two clamps. Don't tighten the clamps fully yet, you'll want to be able to rotate the T fitting to position it once it is installed in the car.

12. Now re-install the feed line back into the car. Connect the hardline, connect the rubber line and tighten the hose clamp at the CP4, and plug the sensor back in.

13. Connect the feed hose that you pre-installed on the bypass block to the last open barb on the T fitting that you just installed along with a hose clamp. Orient the hoses and rotate the T fitting in the feed line so that there are no kinks and everything sits nicely. Depending on your specific application and line routing, the feed line to the bypass block may need to be cut to length to get all the lines to sit nicely. Tighten all hose clamps on the T fitting when satisfied.

14. Now to install the inline filter in the fuel return line of the CP4. The filter needs to be installed between the CP4 and the OEM 4-way fitting that ties the CP4, fuel rail, and injector returns into the fuel tank return line.

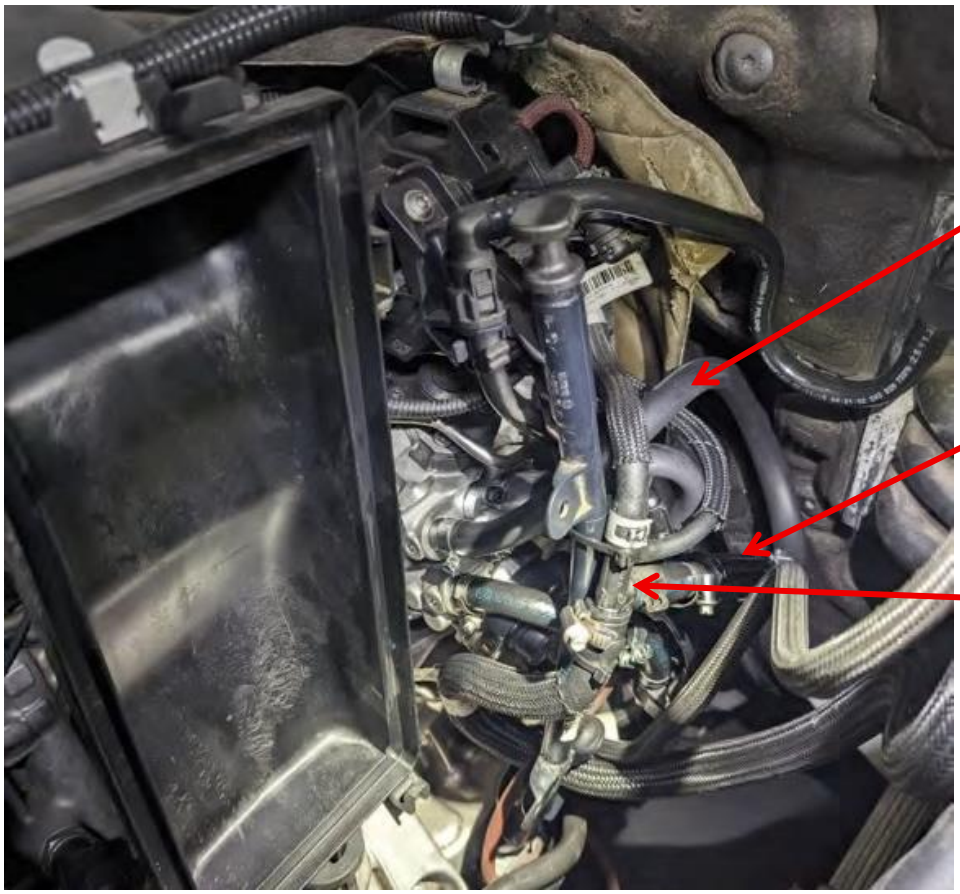
Loosen the hose clamp on the short section of return line at the CP4 and remove it from the pump (return is the upper line on the pump, shown below). You may need to loosen the two hose clamps on either end of the OEM 4-way fitting and/or remove and reinstall the fuel rail and injector return lines from the fitting in order to orient it for your installation. Be careful if removing lines from the OEM 4-way fitting as it is plastic and may break if abused.



15. You'll be installing the inline filter onto the short section of hose that you just removed from the CP4 return port, then using the remaining included length of 3/8" fuel hose to connect the return port from the CP4 to the filter. Ensure when installing the filter that the “in” side is pointing towards the CP4, and the “out” is pointing towards the OEM 4-way plastic fitting (flow direction arrow pointing away from CP4 on Deatschwerks filters). Install hose clamps on all new connections and tighten once the return lines are oriented nicely with no kinks or sharp bends.

16. *From SSK Side Shop Kreationz specific install on an F10 N57*

Below you can see I removed the fuel rail return hose as well as the smaller injector return hose from the OEM 4-way fitting, then moved the fitting out of the bundle to the oil dipstick and rotated it towards the firewall area to give more room for the new filter and hose. This is optional as you can just rotate the 4-way fitting and snake the filter and hose around but I found this to be the best route that minimized any chaffing areas and kinks to the hose. If you choose to do this, be careful as the OEM 4-way fitting is plastic. Gently separating the hoses from the 4-way fitting to allow rotation or separation is key here. The “out” of the filter goes into the small section of hose that used to go to the CP4 return port. Then the “in” of the filter gets connected back to the return port of the CP4 using the remaining fuel line included with the kit. Install hose clamps on all connections and tighten once oriented properly. I zip tied the "T" to the dipstick tube to minimize any movement.



17. Ensure all hose clamps are snug and all connectors have been reconnected.

18. Finally, the most important part. **PRIME THE FUEL SYSTEM** using ISTA/ProTool/etc. Aeration and not priming after opening of the fuel system causes unneeded wear on these HPFP's and should be avoided at all costs. Check your work for any leaks while priming the pump.

19. Re-install the airbox housing and filter in reverse order of removal.

20. Now you can start the engine, please note that it will take some time to crank before starting the first time, this is normal as air needs to be removed from the feed hose to the bypass block now. The CP4 is still receiving its lubrication fuel supply to the bottom end so there is no need to worry.

21. While the engine is idling, check your work one last time for any fuel leaks