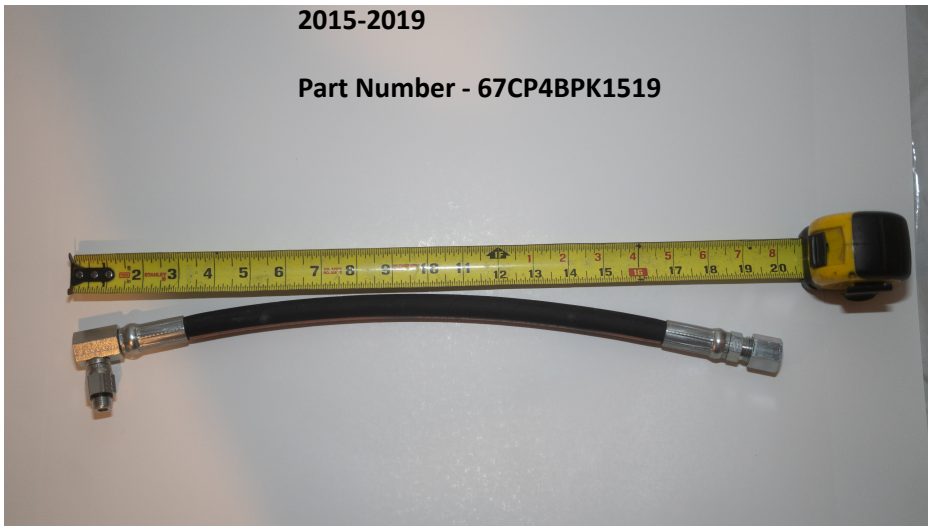
No Limit Fabrication CP4 Disaster Prevention Bypass Kit Installation Instructions

These Instructions were made with the assumption that the person reading has a mechanical background and is familiar with the Ford 6.7L Power Stroke engine and its fuel system. Note: There are two different kits, 2011-2014 and 2015-2019. Both are 50 state emissions legal. See images below.

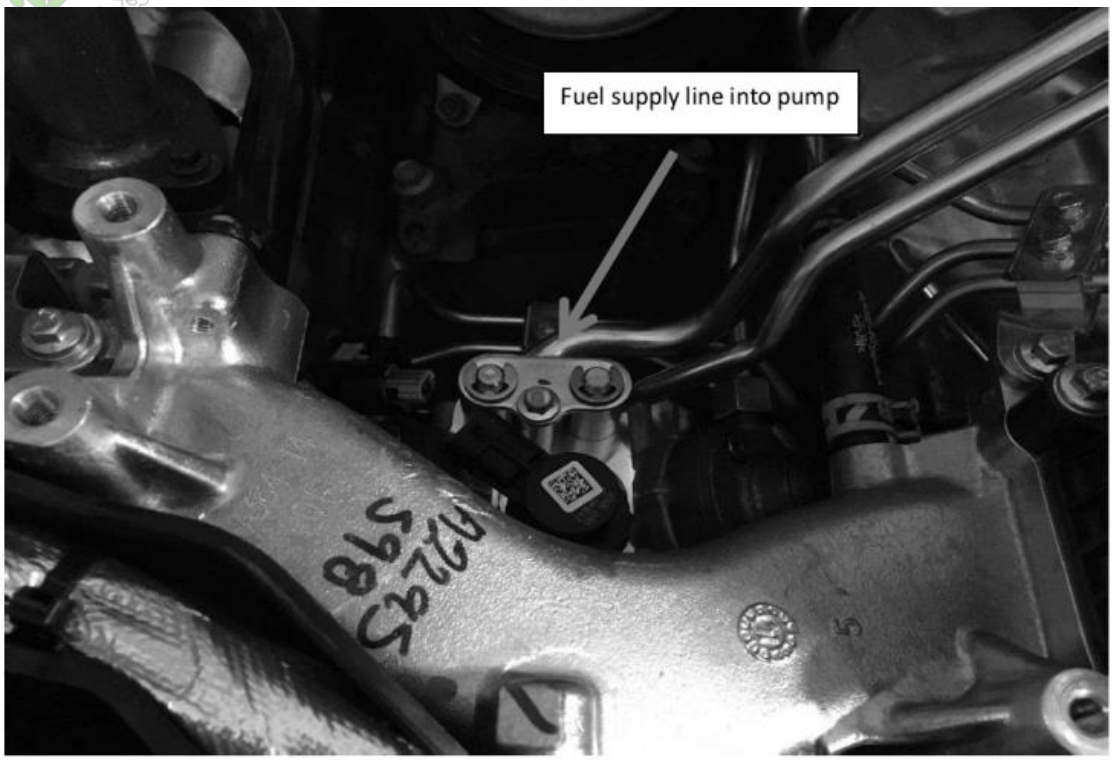


Overview: The kit contains a No Limit Fabrication aluminum adapter block with o-rings and a section of high quality 2 wire braided hydraulic fuel hose and fittings (note: installation images show a braided stainless line that was previously used in this kit). Early and late models use a different line length to accommodate the 2 sensor (early) or 1 sensor (late) equipped feed tube. Also included are longer pump metering unit fasteners. New o-rings are provided or you may reuse existing o-rings from the stock feed line on the adapter block.

Parts List:

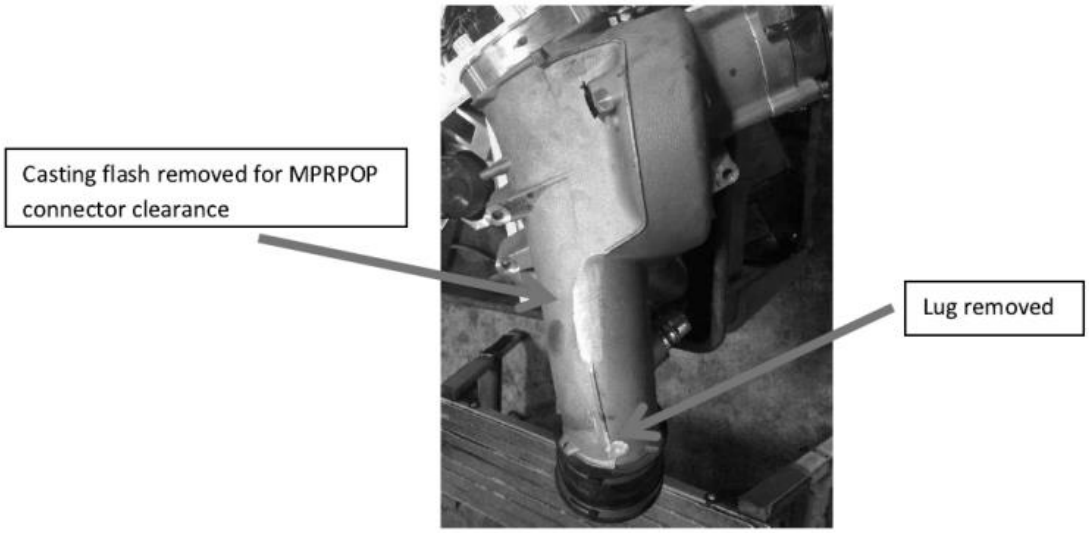
- (1) 2 wire braided hydraulic fuel hose
- (1) No Limit Fabrication Aluminum anodized black adapter block
- (1) Hardware bag containing:
  - (2) Allen head stainless steel bolts
  - (1) large o-ring
  - (1) medium o-ring
  - (2) small o-rings

The first steps involve removing the upper air manifolds to gain access to the top of the high pressure pump located in the valley of the engine as shown below.



Removal of the fuel filter and fuel filter base housing is required to gain clearance to remove the upper plastic air manifold. Remove the hard plastic line from the filter to the fuel supply steel line that goes to the high pressure pump. The supply line to the pump is on the passenger side of the pump. See image above.

Then the aluminum manifold can be removed. The lug on the bottom of the aluminum manifold should be cut/ground off as shown to ease later reinstallation.

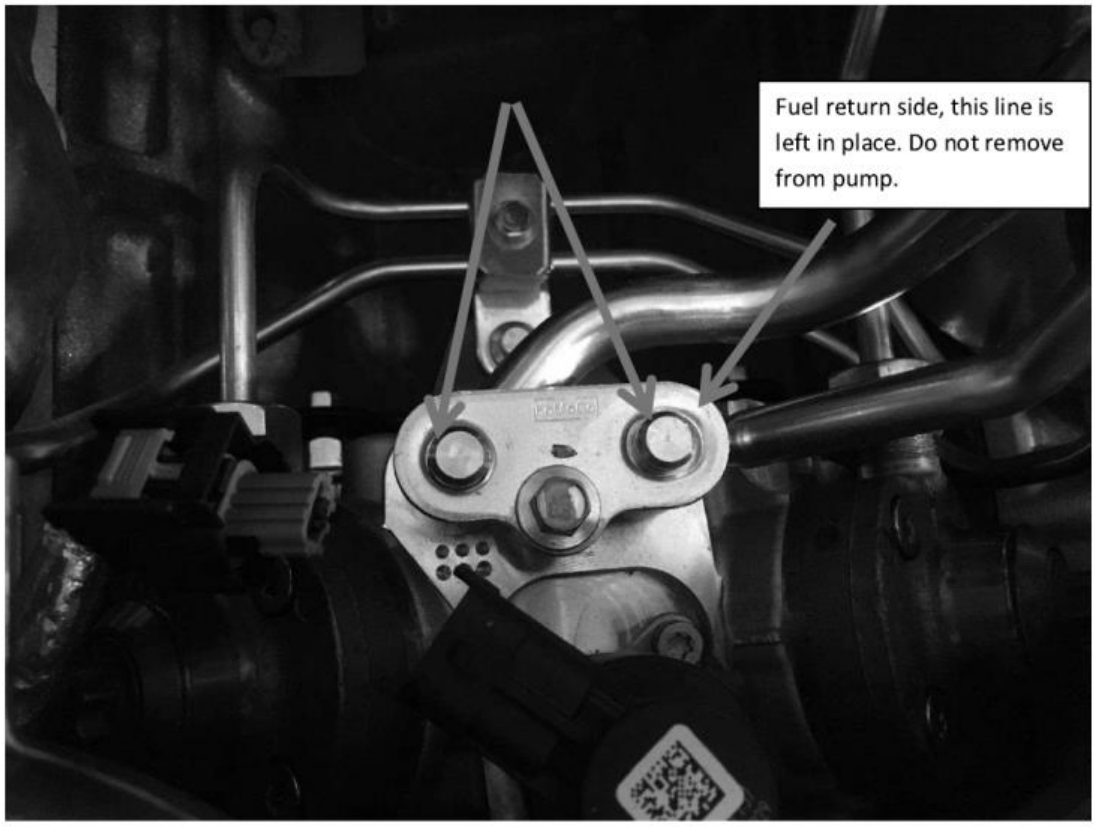


The casting flash rib in the area shown above should be removed to avoid interference with the MProp connector when the manifold is reinstalled.

Remove the 2 hard plastic supply and return line clamps and set aside.

****NOTE**:** Before proceeding, carefully clean the top of the high pressure pump and surrounding areas to remove any loose dirt or debris as it is critical no contamination finds its way into the fuel system. This step can be dismissed at your own risk. When working with fuel systems, cleanliness is an absolute must.

After cleaning, remove the circlips on both the supply (left side) and return (right side) fitting as shown.



Remove the “T-bar” shown in the picture above stamped “FoMoCo” by loosening the 10mm flanged head bolt. This bolt will be reused to attach the failsafe adapter.

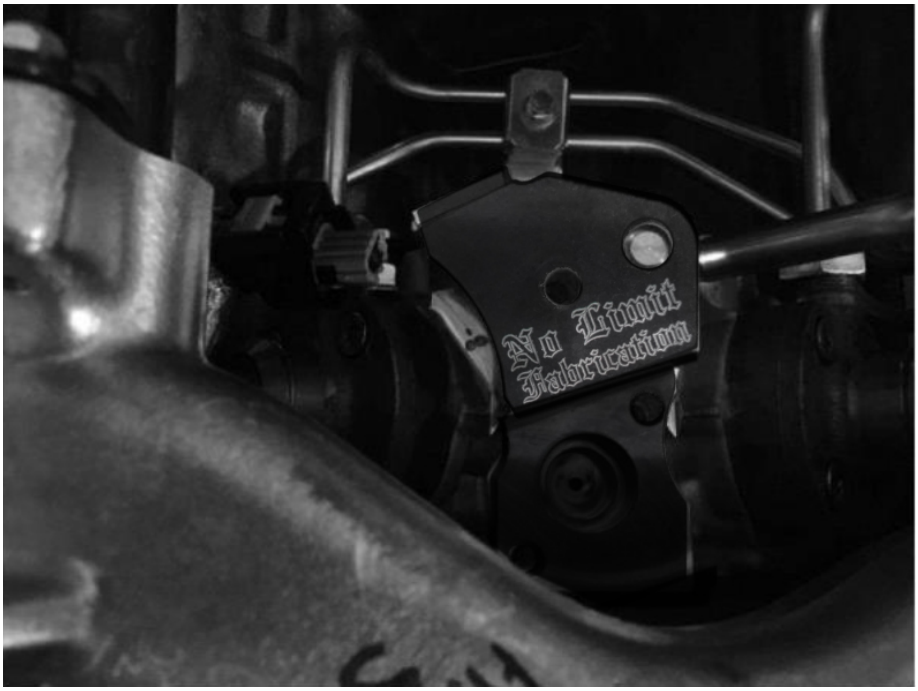
Remove the hard fuel supply line from the top of the pump by lifting straight up. A little wiggling may be required to get the o-rings on the line to release. Note: The return fuel line is left in place and does not get removed.

Remove the metering unit (FCA) from the top of the pump, taking care not to allow any debris into the now open inlet and metering unit pockets in the top of the pump.

Remove the 2 o-rings from the supply tube and transfer to the adapter block, or use the new o-rings supplied. Install the o-rings to the adapter block as shown below. Lubricate the o-rings and install the adapter block in the top of the high pressure pump. Install the metering unit into the adapter block and install the longer metering unit fasteners. Install the center hold down bolt (from the original T-bar) and torque all fasteners.

Transfer and install o-rings (use new o-rings if old are worn). Note order of o-rings on supply.

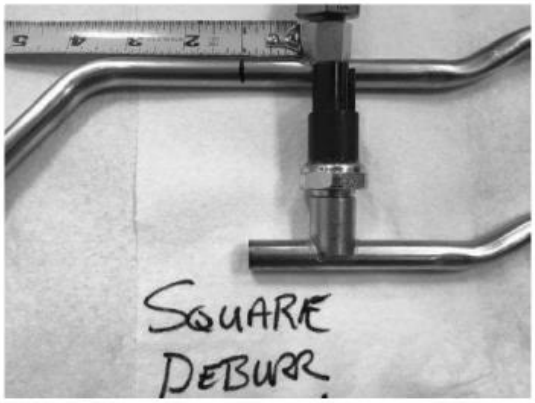
Install adapter block into pump after lubing o-rings. Use caution to avoid cutting o-rings on install.



Install metering unit and tighten all fasteners.

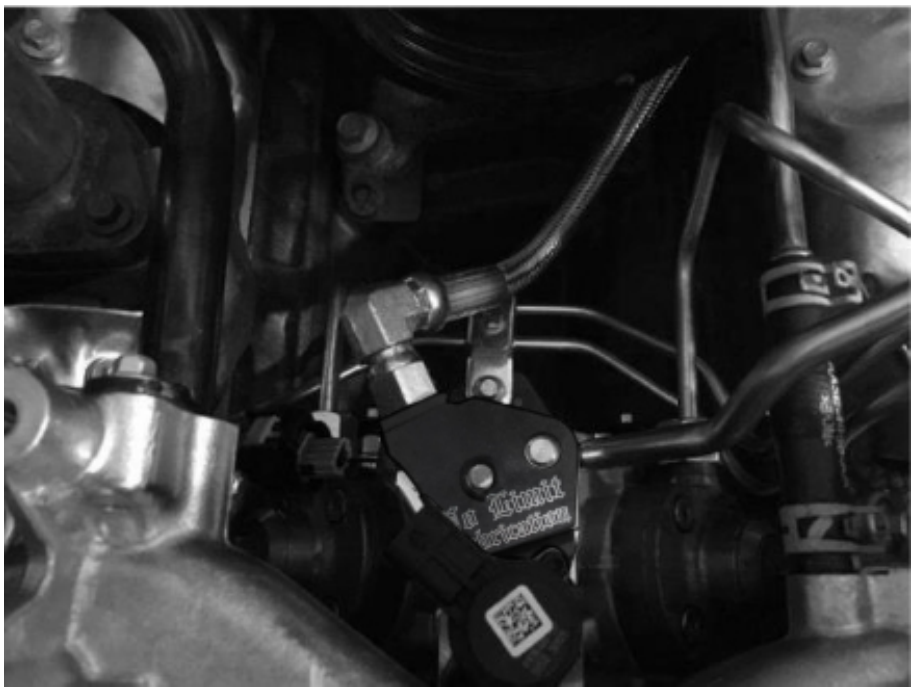
Take the supply hard line and cut as shown to allow connection to the supplied 2 wire braided hydraulic fuel line. The line must be cut square and thoroughly deburred before tightening the compression fitting on the supply line. Inspect and clean the compression fitting after tightening to the hardline to remove any small debris. The picture below shows a line from a late single sensor model; early models have 2 sensors and require a shorter (16 inch early, 18 inch late) 2 wire braided hydraulic line. See pic page 1.

In both cases, make the cut of the supply line 1 inch from the sensor closest to the high pressure pump. Fit the compression fitting end of the 2 wire braided hydraulic line to the steel tube. Use a little lube on the fitting threads and thrust surfaces to assure smooth thread engagement resulting in a good seal.

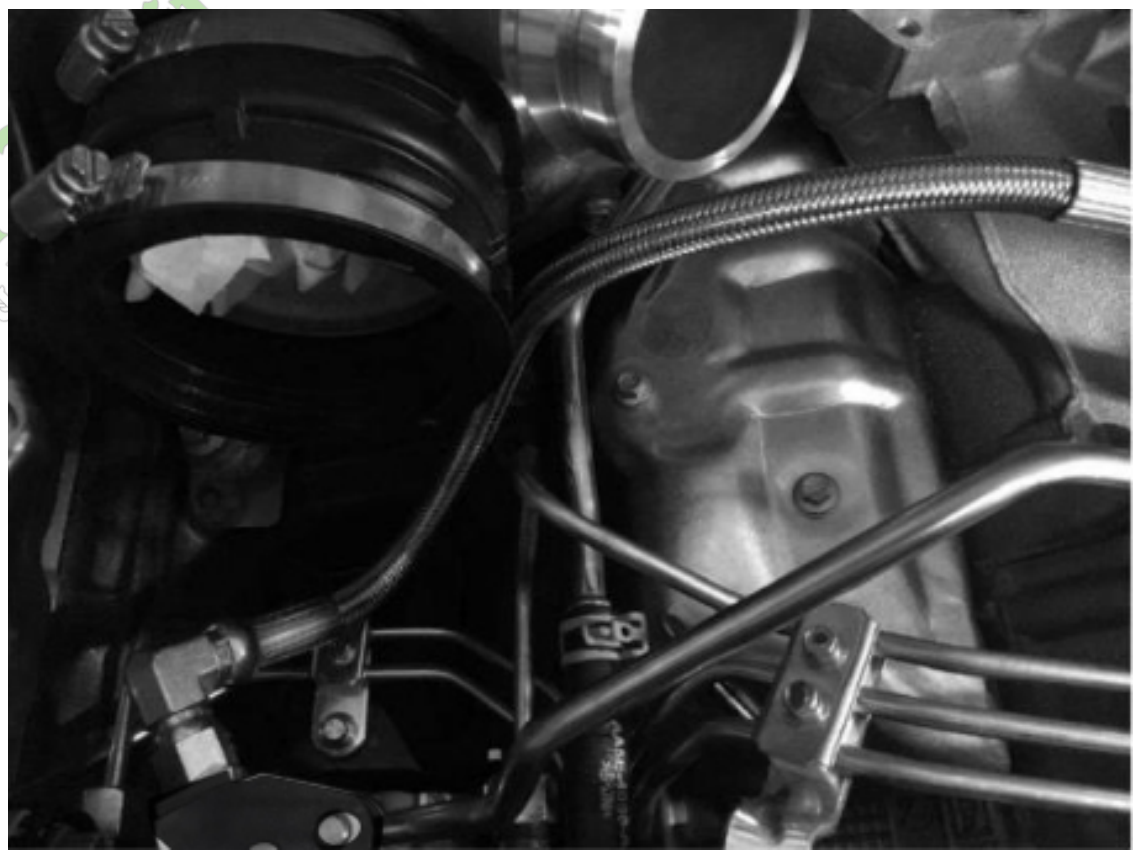


These hardline assemblies are readily available from Ford so if you wish, you can purchase the hardline feed and return assembly for modification. This will provide a clean feed line to modify as well as new o-rings for the adapter block.

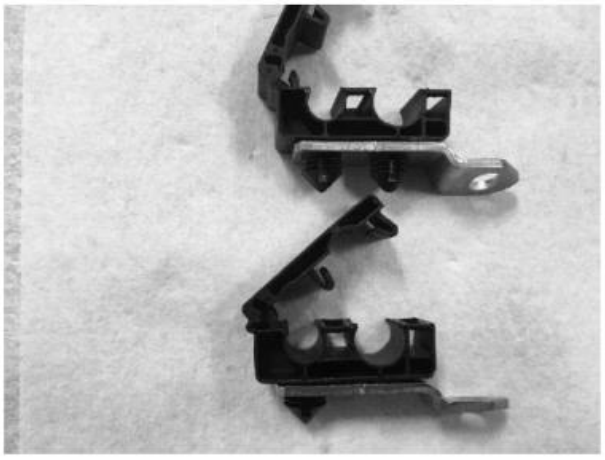
Loosen the stainless feed line compression fitting from the supply hardline and fit the 2 wire braided hydraulic line to the adapter block on top of the high pressure pump.



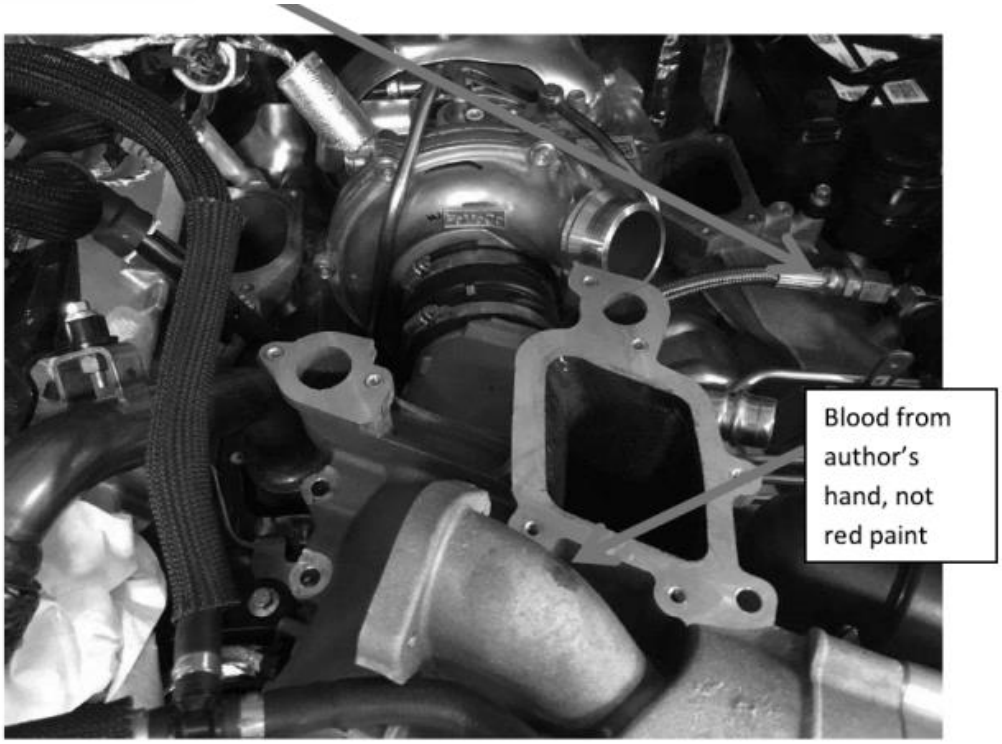
Note: This 2 wire braided hydraulic line must not touch any component as it is fit into the valley and run out.



The line bracket that holds the supply and return hard lines is modified to allow attachment of the new 2 wire braided hydraulic line by removing one of the “Christmas tree” posts closest to the bracket mounting hole allowing the plastic snap to rotate and clear the 2 wire braided hydraulic crimp collar. Top is modified and bottom is unmodified. This is required for both versions of the kit.

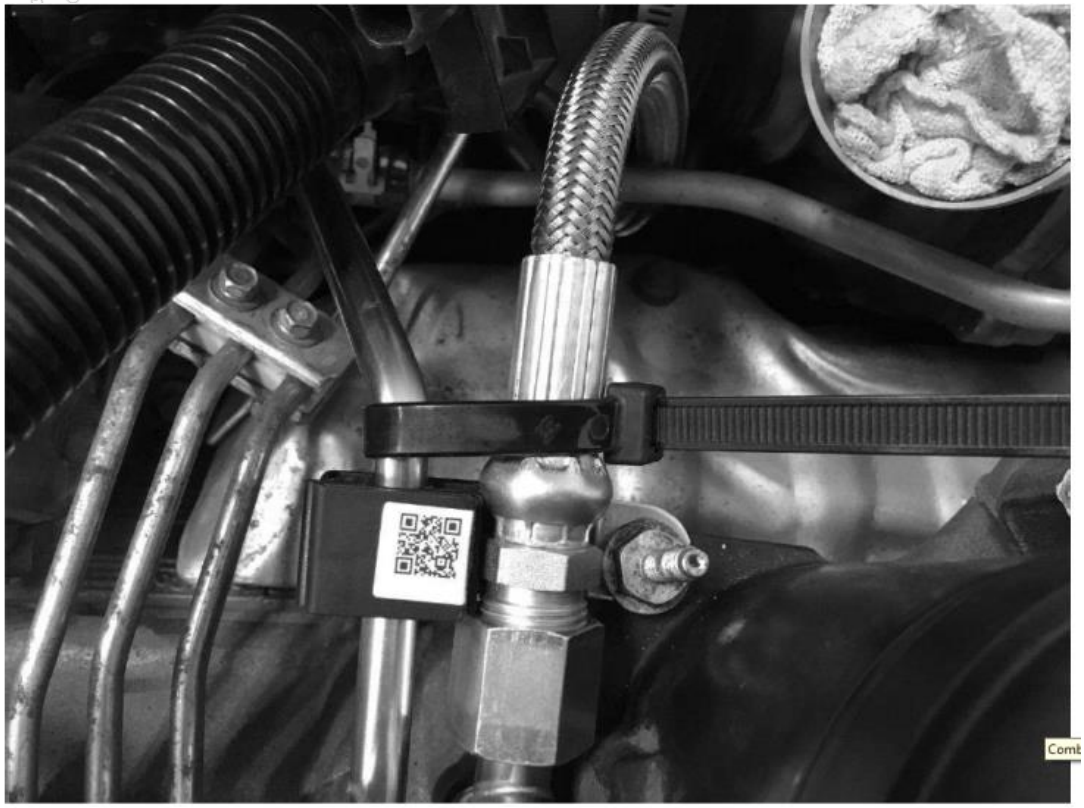


Reinstall the air manifolds and fuel filter base on the engine. Note: The supply hardline is loosely assembled into the 2 wire braided hydraulic compression fitting but not tightened. The compression fitting is tightened after the 2 wire braided hydraulic line is routed in manner such that it does not rub or contact any other component.



The modified hold down bracket above can now be reinstalled and the new fuel supply line and return line fit, tightened and clamped in place, making sure the 2 wire braided hydraulic supply line does not touch any components. On the models with a single sensor on the supply line, the 2 wire braided hydraulic line can be clamped in the modified stock plastic hold down block. The block can be swiveled allowing closure of the snap block around the 2 wire braided hydraulic part of the feed line.

Models with 2 sensors on the feed line will require a heavy zip tie or two zip ties crisscrossed to anchor the feedline to the stock plastic bracket after cutting/grinding half of the stock block away as shown below.



Reinstall the balance of the parts removed, making sure all electrical connectors are replaced and fasteners tightened to specification.

When first starting the vehicle after the kit is installed, it is recommended you cycle the key on and off a few times, purging air from the fuel system before cranking. You will hear gurgling as you do this until all air has been removed.

Your fuel injectors and rails are now protected should the CP4.2 high pressure pump fail.

In the event of pump failure, pump replacement, along with flushing of the return lines and fuel tank is required. No failed pump debris will get into the high pressure side (rails, fuel injectors, high pressure lines), saving thousands of dollars in parts and downtime.

Troubleshooting After Kit Install

Problem: Loss of rail pressure control

Causes: Likely due to a missing or cut/pinched o-ring on the MProp or adapter block

Remedy: Disassemble MProp and adapter block, inspect o-rings for cuts and replace as necessary

Problem: Fault code "PO183" – "Fuel Temperature Sensor A Circuit High Input" (2011-2014 model only)

Causes: Temperature sensor not plugged in on the fuel supply line

Damaged fuel temperature sensor wiring

Bad fuel temperature sensor (should measure around 2.3-2.6 k ohm at room temp)

Remedy: Check plug and wiring for fuel temperature sensor

Replace fuel temperature sensor if necessary

Problem: Intake manifold casting will not sit down on mounting bosses

Causes: Casting flash on bottom of intake casting was not removed and is hitting the MProp connector (see page 4)

Remedy: Cut or grind casting flash from intake until clearance is achieved. In extreme cases, the top of the electrical connector must be trimmed. It will not affect the security of the electrical connection.