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## **2003-09 Cummins Fuel Bowl Delete Installation Instructions**

<b>Part Number</b>	<b>1050370</b>
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**UNLESS AN EO# IS LISTED, THIS PRODUCT IS LEGAL IN CALIFORNIA FOR RACING VEHICLES ONLY, WHICH MAY NEVER BE USED UPON A HIGHWAY.**

**PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION**

BD ENGINE BRAKE, INC.  
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US Shipping Address: 88-446 Harrison St, Sumas, WA 98295 US Mailing Address: PO Box 231, Sumas, WA 98295  
Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bd-power.com](http://www.bd-power.com)

# **KIT CONTENTS :**

Please check to make sure that you have all the parts listed in this kit **before** you start the disassembly of your truck.

<b>1500408</b>	<b>1500409</b>	<b>1500410</b>	
			
<i>Fuel Distribution Block</i>	<i>-8 ORB to -8 JIC</i>	<i>-8 ORB Plug</i>	
<b>Qty: 1</b>	<b>Qty: 2</b>	<b>Qty:1</b>	
<b>1502038</b>	<b>1500411</b>	<b>1452821</b>	
			
<i>-8 JIC Swept Fitting</i>	<i>-6 ORB Plug</i>	<i>1/2" Hose Clamp</i>	
<b>Qty: 2</b>	<b>Qty: 3</b>	<b>Qty: 2</b>	
<b>1500413</b>	<b>1502019</b>	<b>1300130</b>	<b>1900015</b>
			
<i>1/8NPT Plug</i>	<i>Seal Washer</i>	<i>Zip Ties</i>	<i>M8 x 30 Screw</i>
<b>Qty: 1</b>	<b>Qty: 4</b>	<b>Qty: 6</b>	<b>QTY: 2</b>

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### **REQUIRED TOOLS**

- SAE Allen Key Set
- 7/8" Wrench
- 17mm socket
- 10mm Socket
- 8mm Socket
- Side cutters

### **OPTIONAL ACCESSORIES**

Flow-Max lift pump kit	<b>1050305D / 1050310D</b>
Flow-Max add-on water separator filter kit	<b>1050340-WSP</b>
Flow-Max add-on fine particle fuel filter kit	<b>1050350-PFF</b>
Flow-Max Monster 1/2" fuel line kit	<b>1050331</b>
Flow-Max Fuel Heater Kit	<b>1050346 / 1050347 / 1050348</b>
Flow-Max Water In Fuel kit	<b>1050350 / 1050351</b>
Flow-Max tank sump kit	<b>1050330</b>
Flow-Max high flow top draw straw kit	<b>1050345</b>

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## INTRODUCTION

When producing more power from a Dodge RAM 2500/3500 with a Cummins engine, more fuel is typically required. To supply the injection pump with additional fuel, upgraded lift pumps are added, often with additional filters and water separators to ensure the fuel is always clean. With these upgrades, the factory fuel filter assembly becomes a redundant restriction, or is bypassed completely. The BD Diesel Fuel Bowl Delete kit is designed to remove the factory fuel filter assembly, and allow the addition of a fuel pressure sensor. The kit can also be used as a distribution block for applications using dual CP3 kits.

Please note that this kit is intended to be an accessory in addition to an auxiliary lift pump and filter assembly. If the factory CP3 pump feed line has not been upgraded to ½" hose, an upgraded feed line assembly will be required. See optional accessories for details.

**WARNING:** The use of this kit without auxiliary filters and water separators installed is strongly discouraged. Without a fuel filter in place, the injection system on the diesel engine could become damaged.

## REMOVAL OF FACTORY FUEL FILTER ASSEMBLY



**VEHICLE SHOULD BE SAFELY SECURED BEFORE INSTALLATION.**

1. To gain access to the fuel bowl, the factory intake horn will need to be removed.

Do this by removing the dipstick mounting bolt, 4 intake bolts and boot clamp. (5.9L engine shown)

**Note:** It's helpful to cover the exposed grid heater, and charge air pipe with a rag or towel to prevent debris from entering during work.



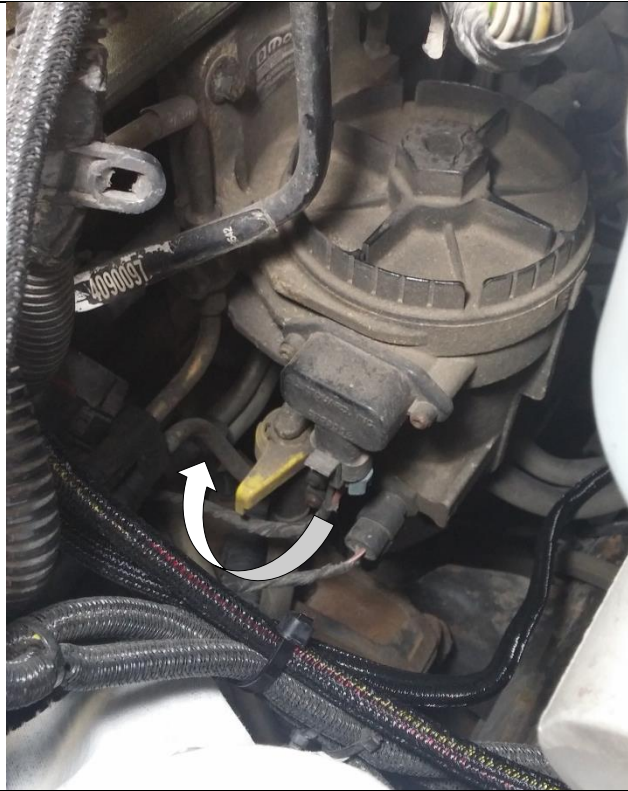
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2. Place a pan or bucket below the fuel bowl and drain as much fuel out as possible by turning the drain valve. This will help reduce fuel spill when the fuel lines are disconnected.

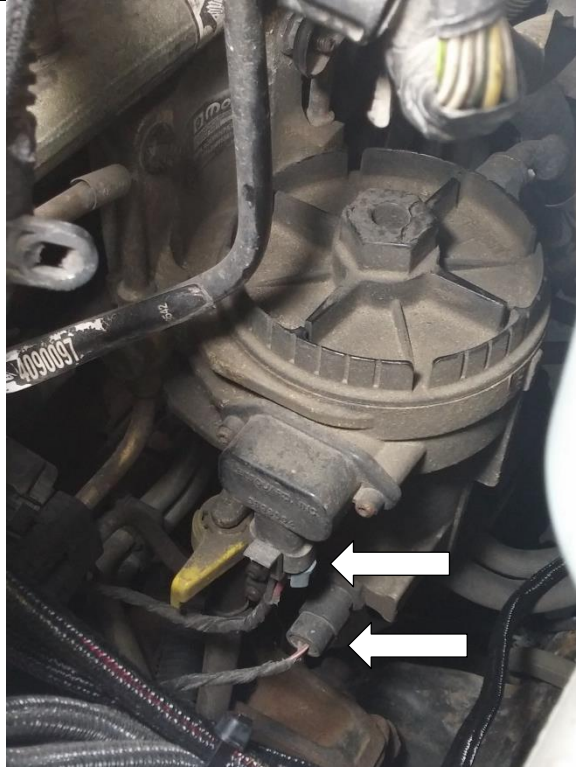


3. Remove dipstick mounting nut from the fuel bowl mounting bolt using a 10mm socket. (5.9L engine only)

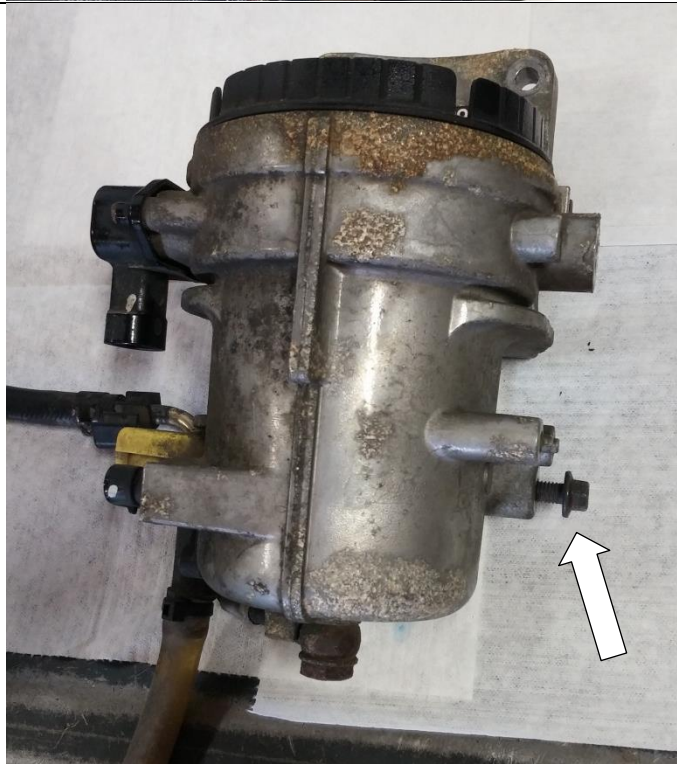
**Note:** It's helpful to loosen the clamp holding the breather tube to the dip stick with an 8mm socket. This will help move the dipstick out of the way.



4. Disconnect the fuel heater and WIF sensor connectors.

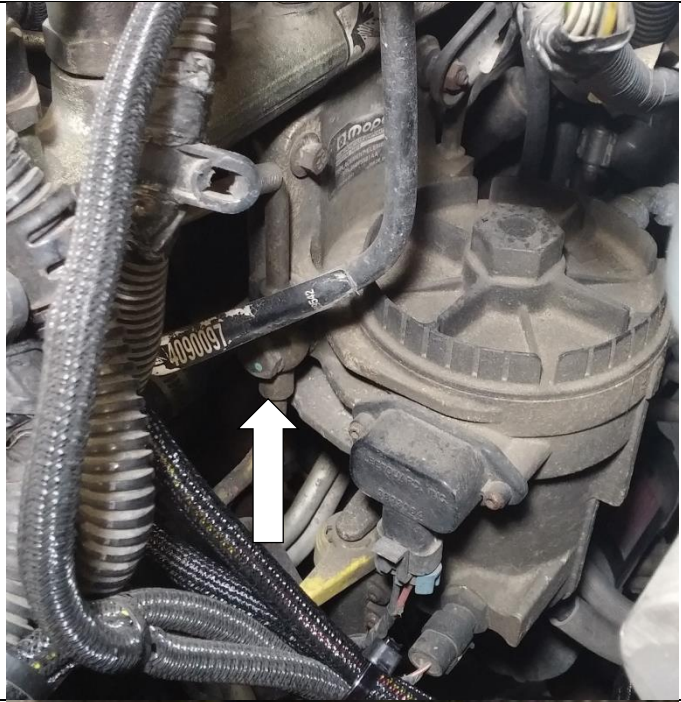


5. Remove bolt holding the return line to the back the of fuel bowl using a 10mm Socket. This fastener is not visible from the engine bay, and the bowl is shown removed for clarity.



6. Loosen and remove banjo bolts from both sides of the fuel bowl with a 17mm socket. Set these aside, as they will be used later for install.

**Note:** Keep a rag handy, as some fuel may drain out when the banjo bolts are removed.



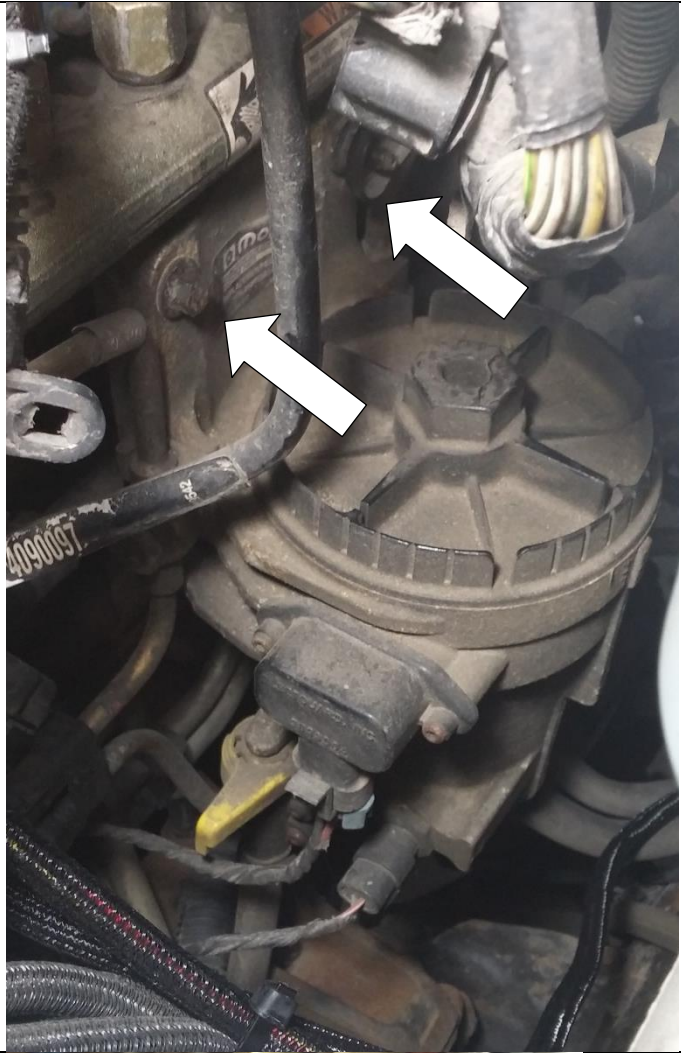
7. If factory fuel feed lines are still in place, remove the banjo fitting (5.9L engine) or quick connect (6.7L engine) from the CP3, and disconnect the fitting on the backside of the fuel bowl.

**Note:** Keep a rag handy, as more fuel may drain out of the bowl at this time. It may be helpful to have a drain pan or bucket on the ground below the truck.



8. Pull the fuel bowl from the engine by removing the two bolts holding it in place using a 10mm Socket. Set these aside for re-install later.

**Note:** It's helpful to hold the cp3 fuel feed hose vertical while pulling the fuel bowl out to keep fuel from spilling.



9. The fuel return lines should now be ready for install of the fuel bowl delete.



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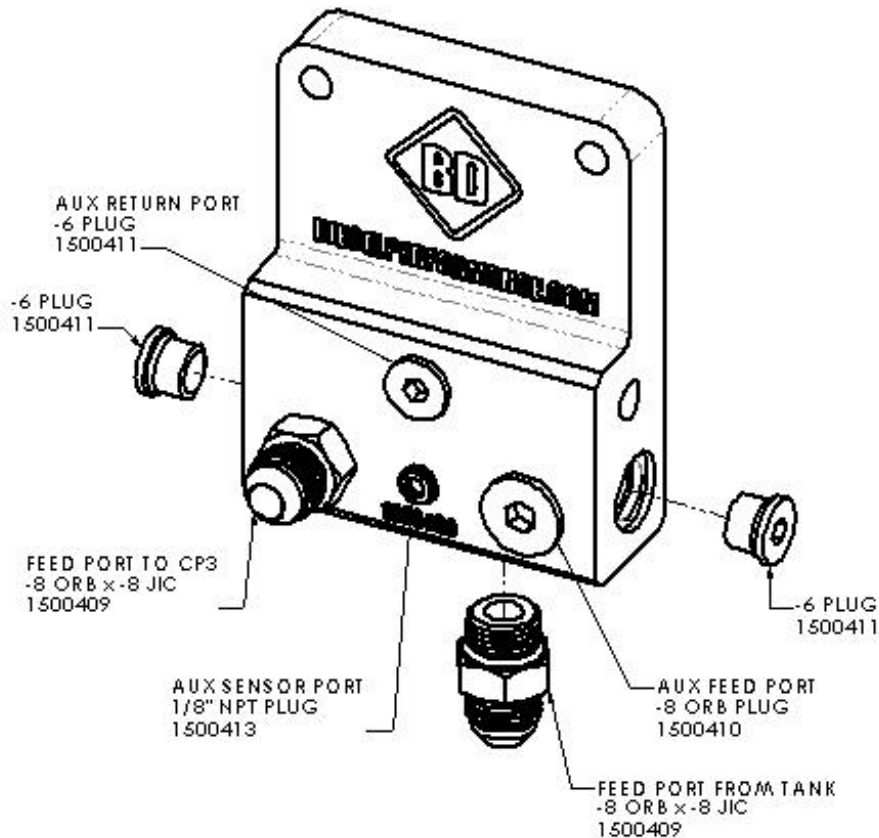
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## INSTALLATION OF FUEL DISTRIBUTION BLOCK

10. Install the supplied plugs and fittings into the distribution block. The -8 feed fittings can be arranged to suit the application. The image shows a suggested arrangement.

**Note:** If you require an additional fuel return and or feed for a second CP3, the ORB plugs can be replaced by fittings.



11. Shown is how a typical install could look like running the supply fuel through the block.

If you want to include a pressure sensor, install that now into the 1/8" NPT port.



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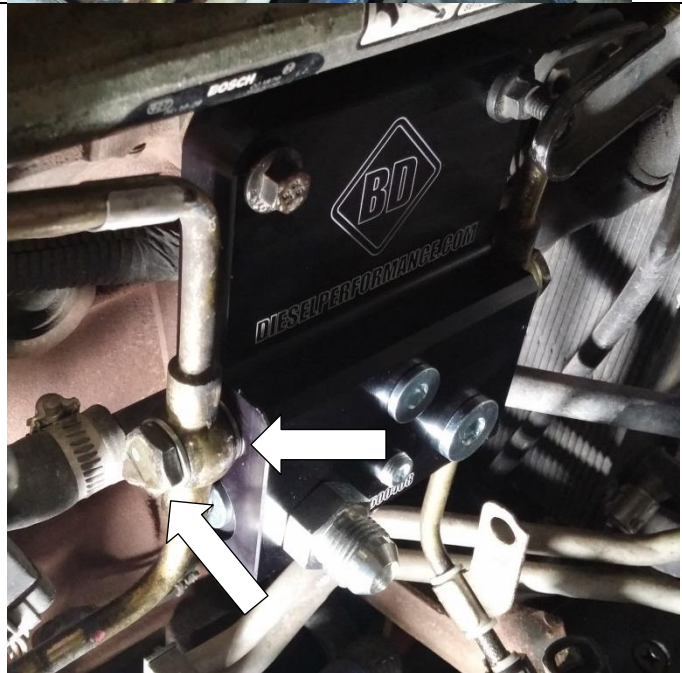
12. Collect the banjo bolts removed from the fuel bowl, and remove the old seal washers. Using supplied seal washers, install one onto each banjo bolt as shown.



13. Install assembled fuel distribution block into place using the two factory bolts. If the engine is a 6.7L model use supplied **1900015** m8 flange bolts instead. Leave them hand tight at this step.



14. Slide a seal washer between the fuel block and return line, and install the original banjo bolt with the new washers. Do this on both sides. Tighten the banjo bolts using a 17mm socket to **18 Ft-lbs.**



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15. Tighten the two bolts holding the fuel distribution block to the cylinder head using a 10mm socket to **24 Ft-lbs.**



16. Re-install dipstick onto stud, and tighten nut to **6.7 Ft-Lbs.** (5.9L Engines only)

Re-attach loop clamp to dipstick tube from breather pipe if removed.



17. If running the fuel feed through the distribution block, attach the supplied swept -8 JIC to a 1/2" fuel hose (not supplied), and connect the hoses to their respective fittings.



18. Ensure all fittings are tight, and hoses are zip tied away from any hot or moving parts in the engine bay.



19. The connections for the factory WIF sensor and fuel heater will now be exposed. It is highly recommended that a WIF extension harness be installed into the factory connector to allow the use of an auxiliary WIF sensor.

For trucks equipped with 5.9L Cummins engine:

- Cover both the WIF and heater connectors with electrical tape, or equivalent, to protect the circuits from water.
- Strap both connectors away from hot or moving engine parts.

For trucks equipped with 6.7L Cummins engine:

- Cover the fuel heater connector with electrical tape, or equivalent, to protect the circuit from water.
- Remove the factory WIF sensor from the fuel bowl, and plug it into the wiring harness. Cover the sensor with electrical tape, or equivalent, to keep the sensor from seeing water.
- Strap both both connectors away from hot or moving engine parts.

20. Re-install intake horn, and any other parts removed for access to the fuel bowl.

21. Prime the fuel system and check for leaks at the connections before driving.

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