



*BD's Revolutionary New Heavy-Duty Lift Pump System*

# **2001-12 Duramax**

# **LIFT PUMP KIT (10-13psi)**

## **Installation Instructions**

**P/N# 1050320C**

**PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLATION.**

The BD auxiliary lift pump kit will provide the safety and performance of enhanced fuel flow to your Duramax engine.

# Kit Contents

1500365-P2		1500357	1500359	1500355
				
<b>FLOWMAX Lift Pump V3</b>		<b>Flat Washer</b>	<b>Self Threading 3/8 Bolt</b>	<b>Mounting Bracket</b>
Qty: 1		Qty: 3	Qty: 3	Qty: 1
1500356	1500358	1452821	1500313	
				
<b>FlowMax Anti-Vibration Mount</b>	<b>T-Bolt Clamp</b>	<b>Hose Clamp</b>	<b>-AN 8 ORB x 1/2" Barb</b>	
Qty: 3	Qty: 2	Qty: 6	Qty: 2	
1500330-D	1500361	1604054	1300529	1500341
				
<b>FlowMax Lift Pump Wiring Harness</b>	<b>Drill Jig</b>	<b>1/2" Fuel Hose</b>	<b>Self Tap Screw</b>	<b>1/2" Strainer</b>
Qty: 1	Qty: 1	Qty: 78"	Qty: 1	Qty: 1
1300131		1500315		
				
<b>Tie Wrap</b>		<b>Spring (Red)</b>		
Qty: 8		Qty: 1		

## ***Optional Accessories***

- **1081130** - Low Fuel Pressure LED Alarm kit
- **1085220** – X-Monitor Digital Gauge Package (2003-05)
- **1080156** – Fuel Pressure Kit (X-Monitor Accessory)

## ***Required Tools***

- 5mm Allen wrench
- Drill
- 1/8" and 21/64" Drill Bits
- Pliers
- 1/4" Hex Tool and Ratchet
- 10 mm Socket or wrench
- Small Pipe Cutter
- Knife To Cut Fuel Hose
- 9/16" Wrench or socket
- 7/16" wrench or socket

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# Spring Identification & Installation

NOTE: If using the red spring in the pump the vehicle may set a pressure related code.  
DTC# P1093

8-10 PSI	Spring in pump
10-13 PSI	Red spring

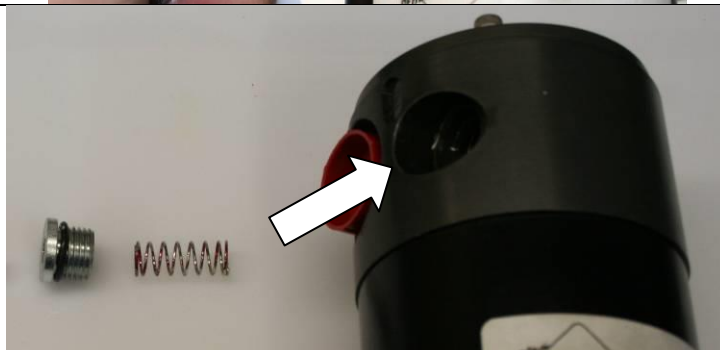
Using a 1/4" hex tool, loosen the hex plug to access the spring.

**Note:** You may need to use a vise with soft jaws to help secure the pump.



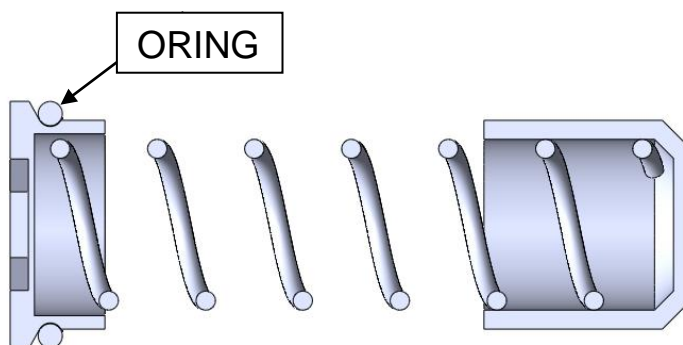
Once the plug is removed you can access the spring to be changed.

**\*Important\*** do not remove the piston behind the spring.



When reinstalling the plug and spring assembly, ensure the spring is centered in the piston.

**NOTE:** There is no need to over torque the plug because there is an oring seal.

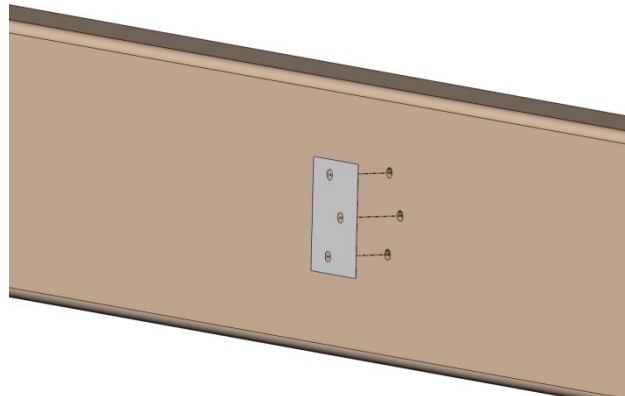


## Installation

Securely lift the truck.

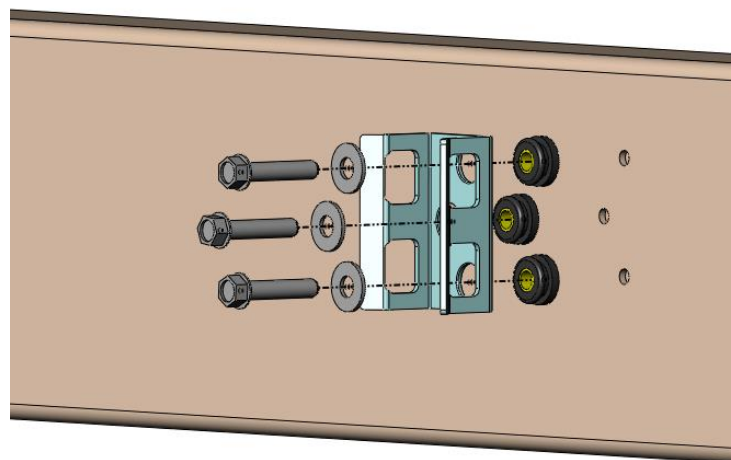
Tape the drill jig on the inside of the frame in the location you would like to mount the pump. Once taped in place hold the pump up to make sure you have ample clearance.

Mark holes with center punch. Remove drill template and drill pilot holes to 1/8". Drill main holes to 21/64".



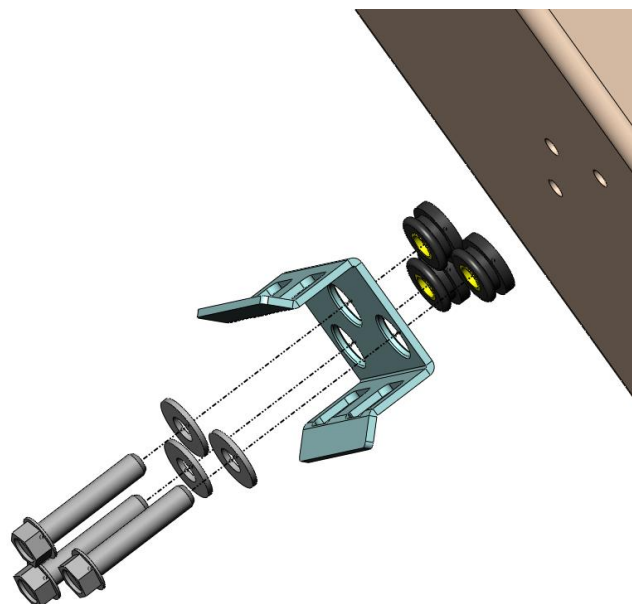
Insert the three rubber isolators into the support bracket. Use some water to aid in lubricating the isolators as they slide into the bracket.

Place the large washers on the inside of the bracket against the rubber isolator.



Using an air ratchet (9/16" socket) tighten the self-threading 3/8" bolt through each hole in the support bracket assembly and into the frame. Repeat this step for the other 2 bolts.

Torque the three bolts to 25ft-lbs.



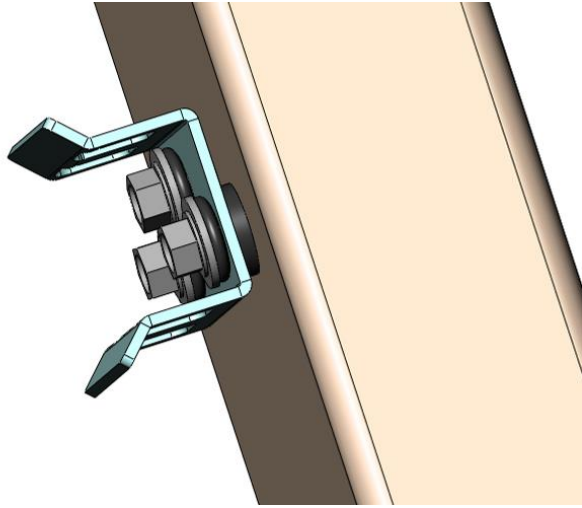
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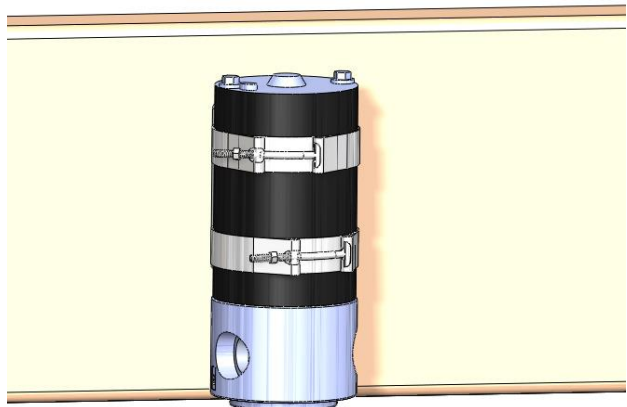
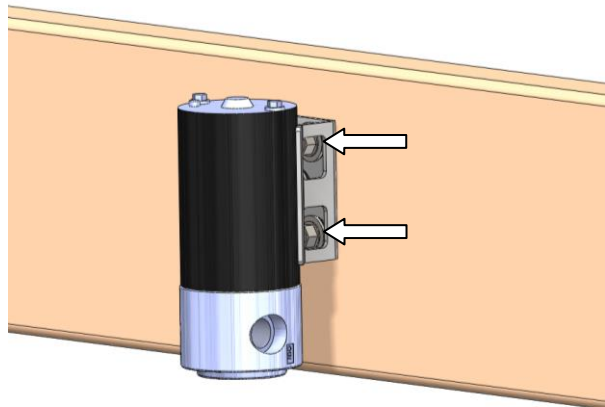




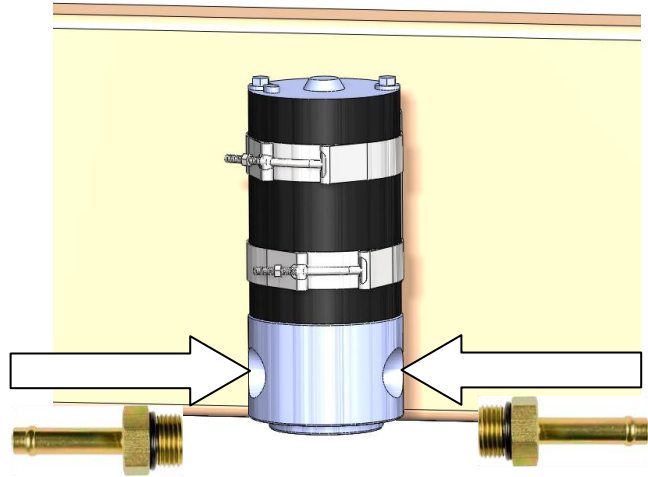
Locate the two supplied T Bolt band clamps; unthread the nut (7/16" Socket) from each of them. Spread the clamps apart and insert them through boxed cutouts.

With both clamps inserted, place the pump into place and align the inlet and outlet parallel to the frame. The **inlet** should be pointed towards the fuel tank.

Tighten the clamps around the motor body, rather than the aluminum pump head. Torque nuts to 80 in/lbs.

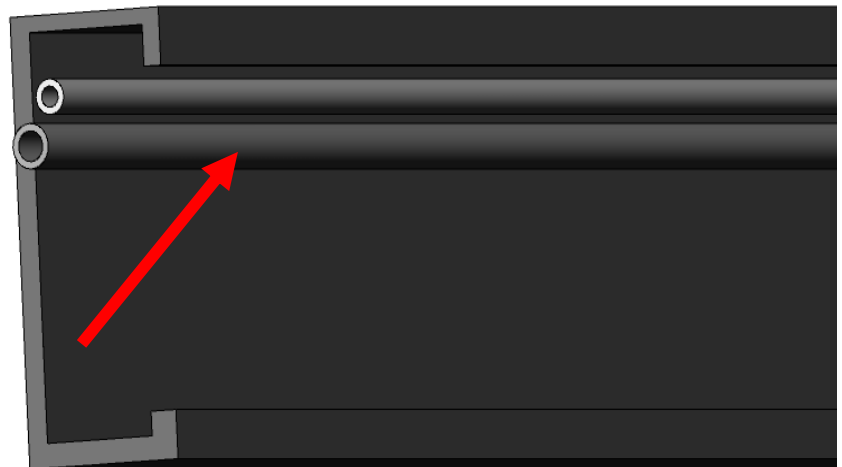


Insert the ORB-Barb fittings to the inlet and outlet of the pump. Do not over tighten as they use an o-ring for sealing.



Locate the fuel supply pipe (1/2" OD) inside of the frame rail in front of the fuel and tank and fuel cooler.

The line (1/2" OD) is the larger of the two and positioned lower on the frame rail.



With the pump mount mark and cut out a 20" section of the fuel pipe from the inside of the frame rail. The location of this will depend on the location of the fuel pump.

**Caution:** Depending on fuel tank level, fuel may quickly drain out from the cut pipe. Be sure to cap this pipe to prevent further drainage.



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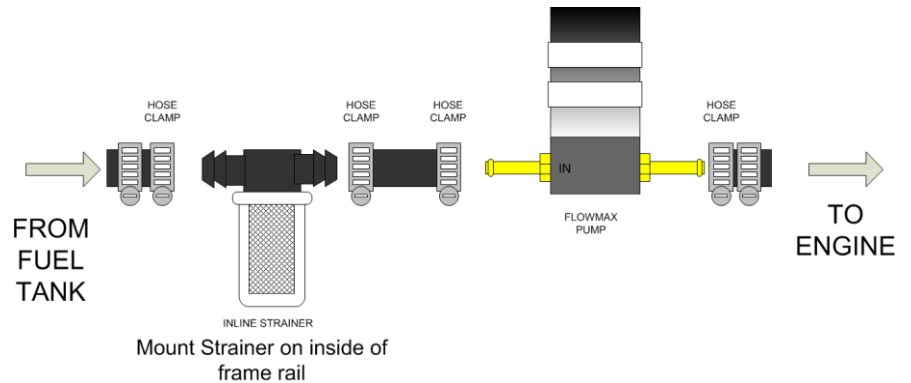
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Slide the supplied 1/2" hose over the fuel tank side of the OEM hard line. Using a small section route this into the supplied 1/2" strainer. Then from the strainer route a section of hose into the INLET of the fuel Pump.

**NOTE THE STRAINER SHOULD BE SECURED ON THE INSIDE OF THE FRAME RAIL.**



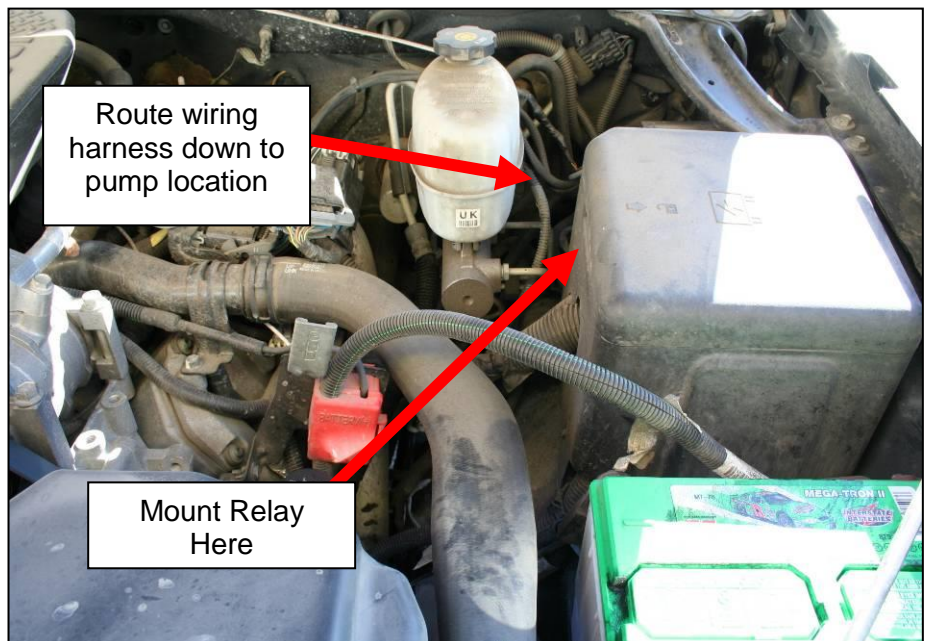
Then connect the outlet of the pump to the forward OEM fuel line towards the engine.

Secure each connection with a hose clamp. Use two hose clamps for the OEM to hose connections.

Lower the truck, and then proceed to the engine compartment.

Route the wiring harness along firewall down to the inside of the frame rail on the driver's side.

Mount the relay to the side of the fuse box on the driver's side of the truck, using the provided self tapping screw.





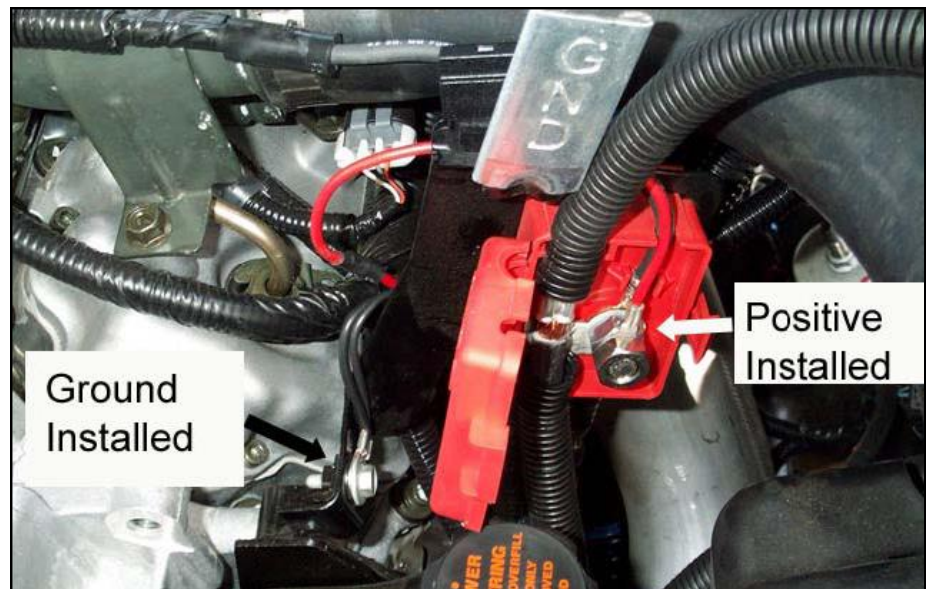
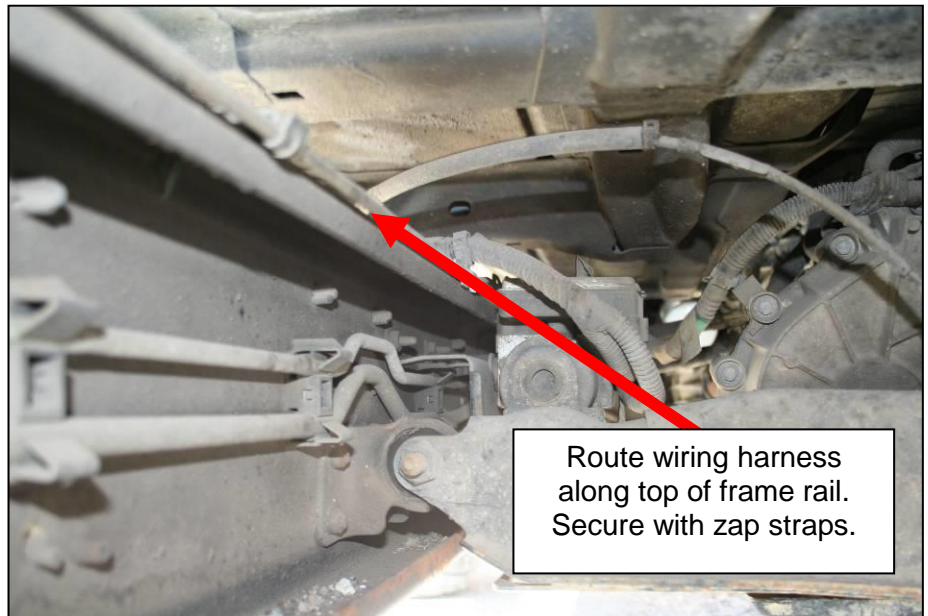
Lift the truck once again, and then route the wiring harness from the engine compartment along the top of the frame rail and connect it to the fuel pump.

Secure the wiring harness along the way with the provided zap straps.

Lower the truck and then proceed to the engine compartment.

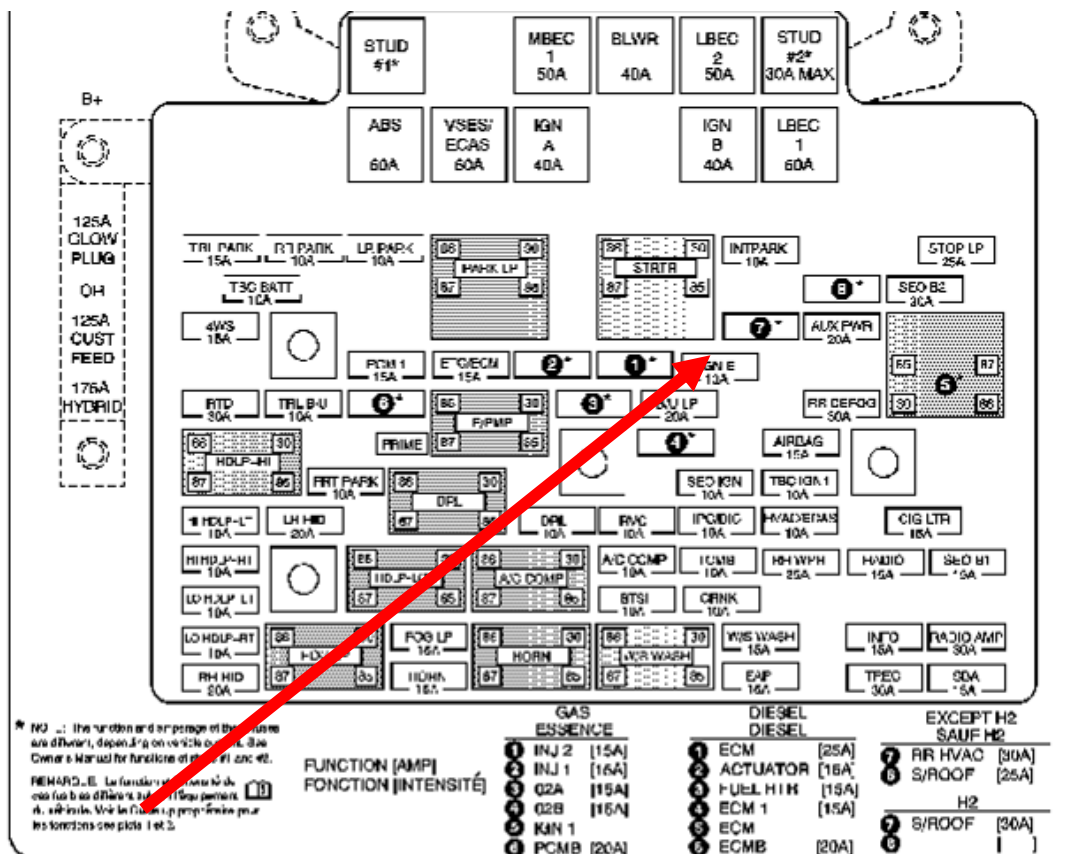
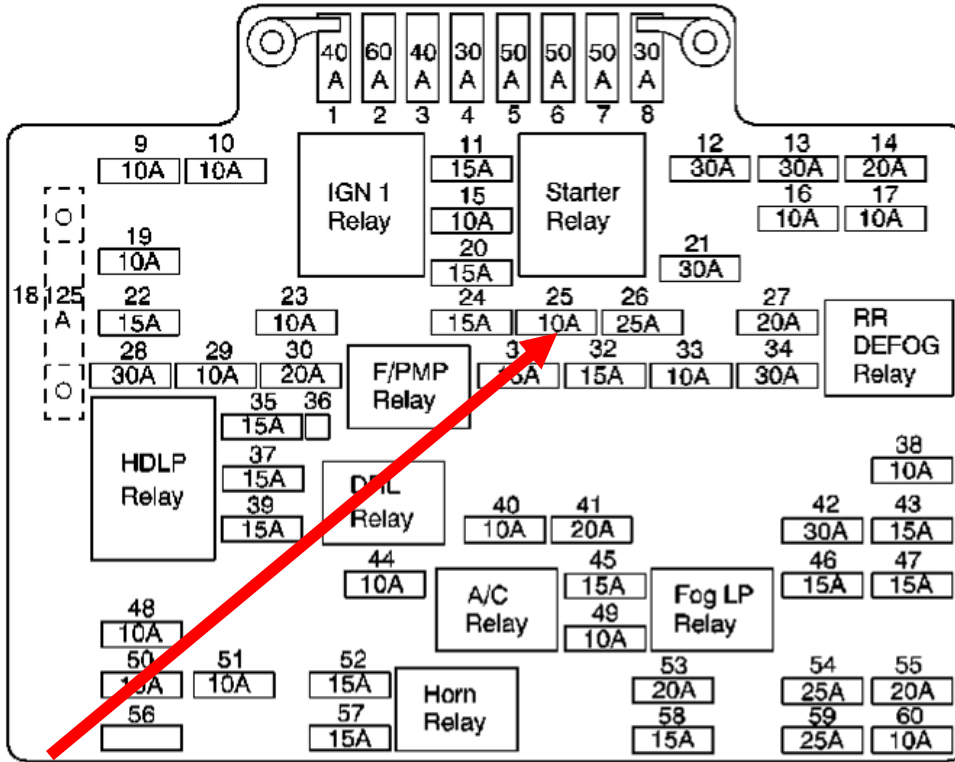
Connect the Positive (Red) and Negative (Black) leads to the power supply junction box (Red Plastic Box, Driver's side).

Connect Positive (Red) lead to the stud inside the power junction box. Connect the Negative (black) lead to bolt at the base of the junction box bracket.



Locate the fuse box on the driver's side of the engine compartment. Lift cover off and locate the 10Amp (Red) fuse for the IGN E Fuse (Power Key On). Pull out fuse and install fuse taper and replace fuse.

Connect trigger Yellow wire to the newly installed fuse taper. Route the wire outside of the fuse box so that they fuse box lid can still close correctly.



Close the hood and you're all done.

As you turn the key to the ON position, you should be able to hear the pump run.

The Pump should run between 8-10 psi at idle or 10-13 psi if using the red spring.

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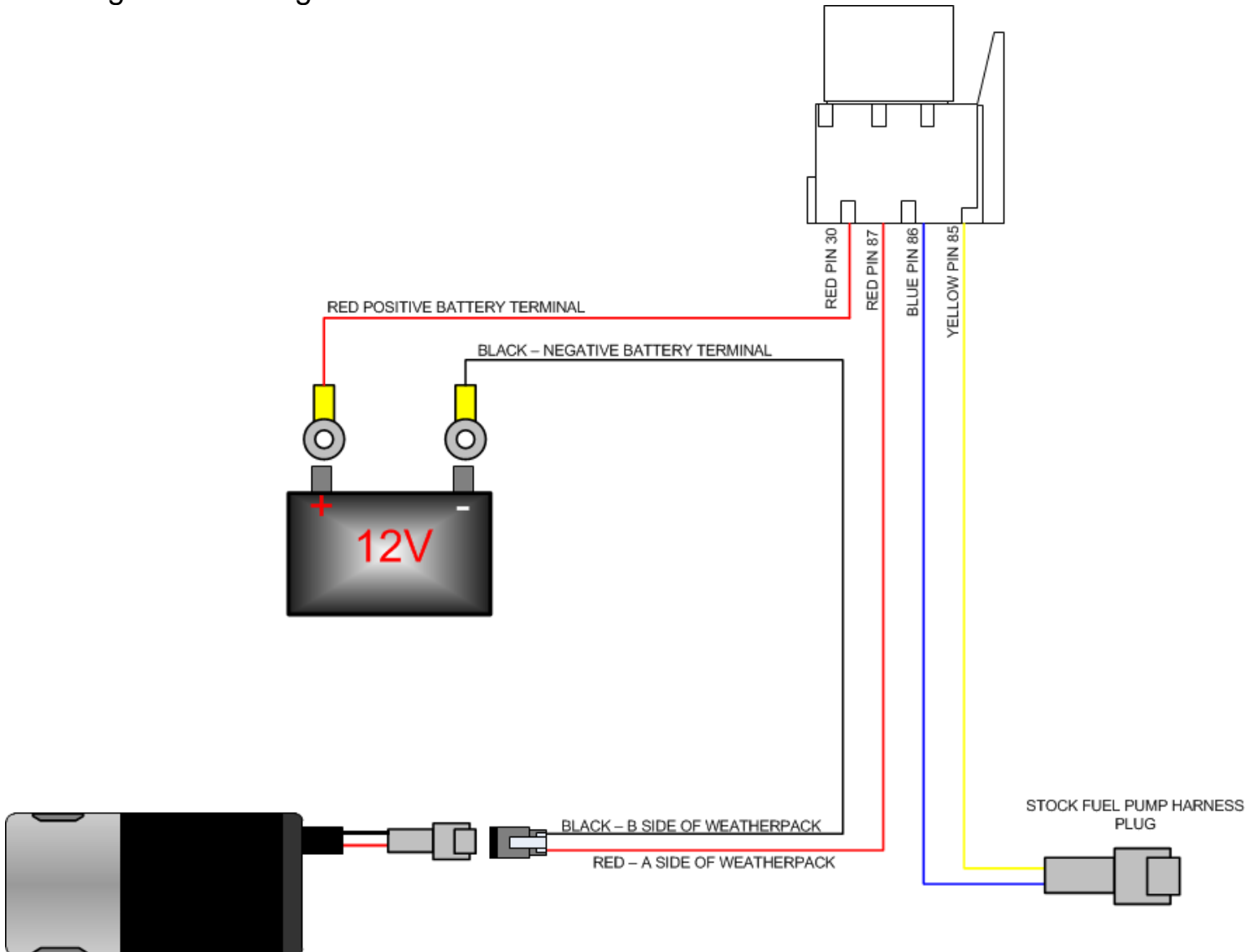
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## Trouble Shooting

### Wiring harness diagram



If you have problems, complete the following tests or procedures,

- Clean and re-tighten battery terminals.
- Ensure there are no crimped/pinched sections of fuel line.
- Change Fuel Filter
- Check that you have at least 12 volts at the electrical connector at the pump.
- Check that fuse in supplied harness near battery terminal is not blown.
- Check that all plugs are securely clipped together
- Run a hose from a fuel can full of diesel to the pump inlet to see if the pressure changes.

If the pressure increases the problem is a restriction in the line possibly a clogged fuel screen.

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