Basic Lift Pump Installation

It is recommended that these pumps be controlled by the KD Fuel Lift Pump Control Harness Kit for safety reasons as well as simplicity of operation. Installing lift supply pumps on a Duramax is a very straight forward procedure. The only place it can get complicated is pump mounting location, and tank pickup choices. This guide will cover using basic ½" supply hose and OE connections. While I prefer to enlarge the pickup and supply lines, (See HP Pickup install) it is also quite acceptable to leave the sending unit intact without modification and connect directly to the OE feed nipple. To remove the OE lines you will need the Lisle QD tool (image 1) to disconnect the OE quick connects for both the supply and return. I suggest removing the tank for this operation. Tank removal is pretty basic, just be sure to disconnect the sending unit electrical plug, the filler neck ground strap, and the filler neck from the body attach at the fuel door. Use a clean rag or towel to plug filler neck while doing this. All plumbing for this installation is taking the place of the OE supply hose (image 2) and will be easily reversible by re-installing this hose if the need arises.

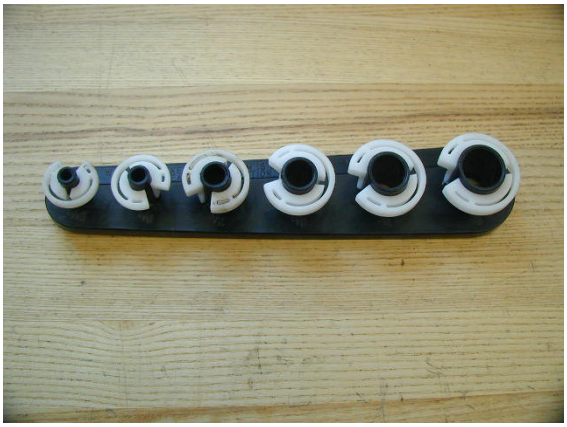

Image 1

Image 2

The LB7 and LLY use two distinctively different sending unit/pickup assemblies. Both have the same ½" supply nipples. I prefer to use a softer hose for these applications and push the hose over the "bump ring" on the OE connections. We are basically connecting the OE feed nipple (image 3) to the OE steel line (image 4) behind the fuel cooler. The purpose of pushing over the "bump ring" is to ensure that the hose does not slip off when clamped. The clamp may be placed on or beyond the bulge in the hose. While there are quick connect options, they are plastic and require sliding the hose on and clamping. This makes 2 connections at each end which is a waste in my opinion.

Image 3

Image 4

The pumps can be mounted in numerous locations. They can be mounted to the tank shield (image 5) the overhead bracket found only on 04+ trucks (image 6) or to the frame rail ahead of the fuel cooler (image 7) via direct bolting or our stainless mounting bracket.

Image 5

Image 6

Image 7

Image 8

Pump location will dictate hose lengths. Be sure that hoses are routed so as not to kink, cut, or chafe on any component especially the drive shaft and tank shield. Sharp edges on tank shield can be blunted by folding the shield over or by slicing a section of hose and applying it like a door edge molding.

Important notes regarding pump operation and warranty please read:

It is highly advisable that you verify lift pump operating pressure at the time of install, and again periodically just for good measures.

The KD pumps are a centrifugal style which allows them to move a very large volume of fuel at moderate to low pressure. A single pump will deliver about 3-4 psi and twins will produce 8-9psi. These pumps pose nearly zero restriction in the event of pump stoppage. The magnetic drive design of the motor eliminates any shafts or shaft seals and any worries about leakage into the motor or elsewhere. There is only one simple o-ring seal and that ring is placed under compression rather than sealing a rotating shaft so the result is a leak proof design that will last for many years. Operation of these pumps is nearly silent. Pumps may be mounted in most any position other than inverted, but preference is to have the motor hang downward or horizontal. Mounting the motor inverted can allow an air pocket to exist potentially reducing the motor's ability to cool to the fuel. Being a centrifugal design, these pumps will NOT prime themselves. When installation is complete they MUST be bled properly. In most cases I simply start the truck prior to powering the pumps. I have found that the Duramax engine can easily pass the air in the lines and continue to run, pushing the air back to the tank. Once the engine has been run for a few minutes, I then cut on the power to the pumps, bleed filter(s), and verify pressure with my KD Fuel Filter Restriction/Lift Pump Psi Gauge. This is also a good time to verify restriction with pumps stopped, new filter(s) and a full tank of fuel. Failure to verify proper bleeding can lead to pump failure. Additionally, running at an excessively low or running out of fuel can cause loss of prime. Failures due to loss of prime are evident by the destruction of the center part of the rotor making it appear as though it was built off center. This will cause it to rub the stator assembly making a scraping noise. This type of failure will NOT be covered under warranty.

Pump/Filter combo notes:

The rear pump MUST be bled independently. When properly bled there should be fuel discharge at the filter bleeder any time the pumps are running. If not, there is air in the pump and it must be bled. This can be tricky some times. A sure fire way to bleed this is to apply a small amount of air pressure through the fill neck until fuel discharges from the bleeder. Use caution s to only apply a slight amount of pressure and release it slowly to prevent back flow from the filler.