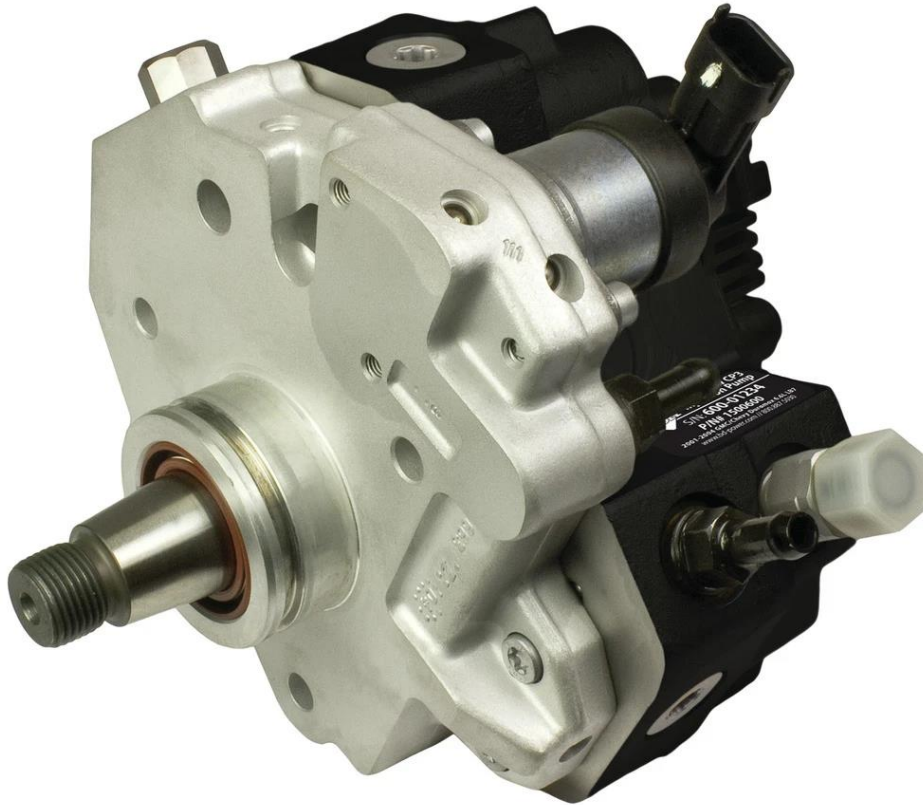




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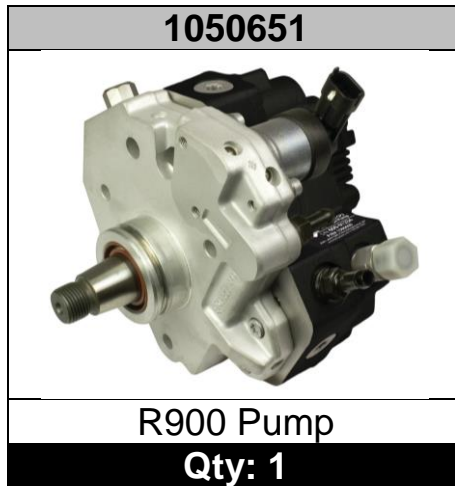


# **R900 12mm STROKER CP3**

**2001-2010 DURAMAX CP3 INJECTION PUMP**

<b>1050651</b>	<b>2001-2010 GM DURAMAX CP3</b>
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## Kit Contents



## Introduction

The BD Diesel R900 CP3 12mm Stoker Pump is a high-performance stroked Bosch CP3 pump. It has a 72% greater displacement compared to stock, and can deliver enough fuel to support 900hp. For performance engine tuning, it may be helpful to refer to the flow chart contained in *Appendix A* of this manual.

## Installation

-  **Caution:** Cleanliness cannot be overemphasized when handling or replacing diesel fuel system components. This especially includes the fuel injectors, high-pressure fuel lines and fuel injection pump. Dirt contamination could cause rapid part wear and possible plugging of fuel injector nozzle tip holes. This could lead to possible engine misfire. Always wash/clean any fuel system component thoroughly before disassembly and air dry. Cap or cover any open parts after disassembly.
-  Before assembly, examine each part for dirt, grease or other contaminants and clean if necessary. When installing new parts, lubricate them with clean engine oil or clean diesel fuel only.
-  Some parts being removed during this process may require replacement gaskets. Please be aware, new gaskets may need to be purchased for reassembly.

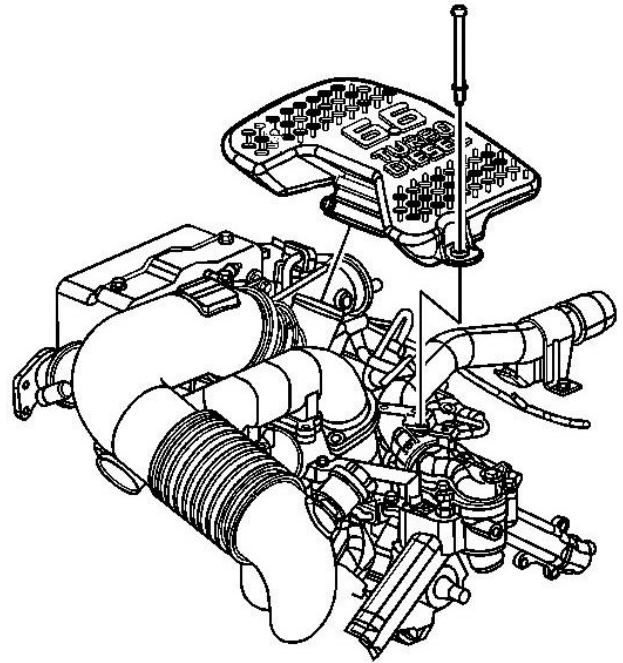
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Disconnect both batteries before beginning installation. Cover and isolate battery terminals.

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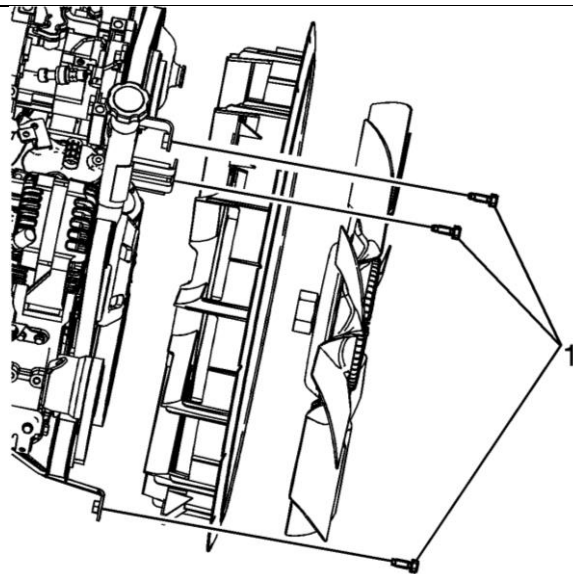
Remove air intake duct between airbox and turbo charger inlet.

**Note:** Cover air intake of turbo with a rag or tape to ensure no debris enter.

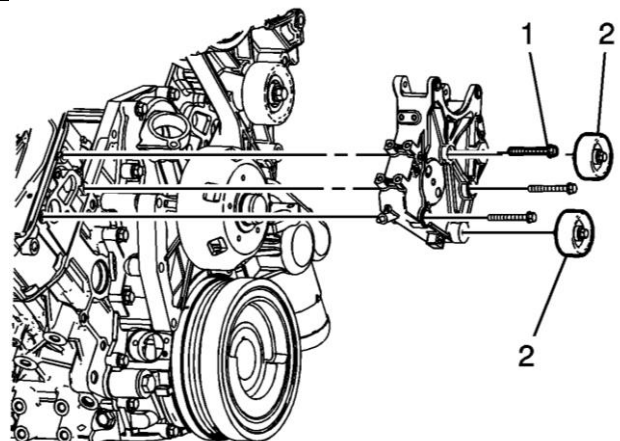


Drain coolant from radiator.

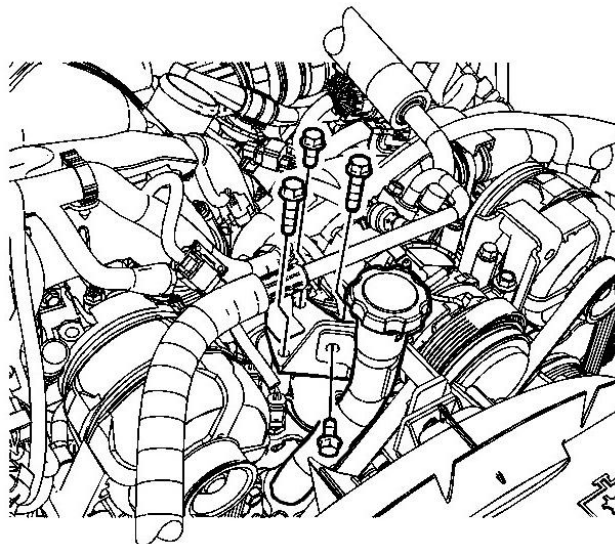
Then remove serpentine belt, fan shroud (see *bolts marked #1*) and fan blade assembly.



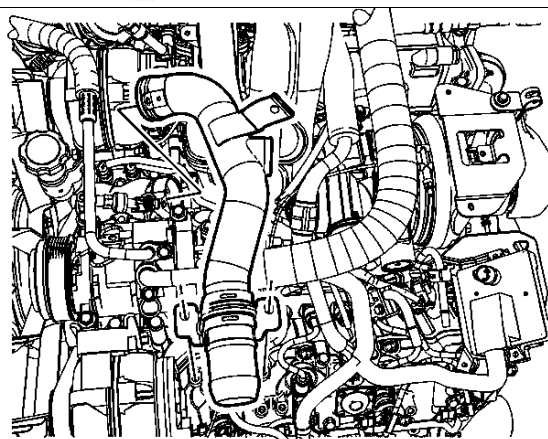
Remove alternator and bracket assembly.



Remove oil fill tube and mounting bracket.

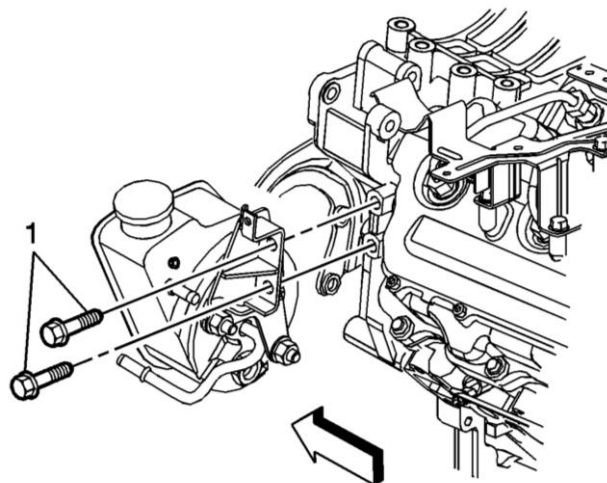


Remove water outlet pipe assembly from engine.

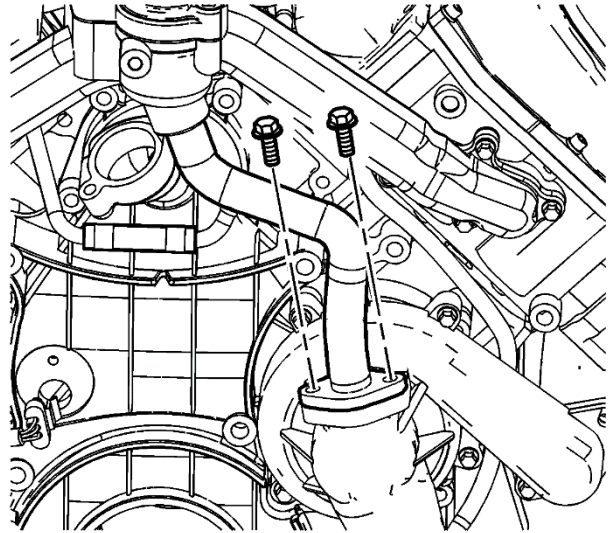


Unbolt power steering pump assembly and move aside.

**Note:** Don't disconnect power steering hoses, removal is not required.

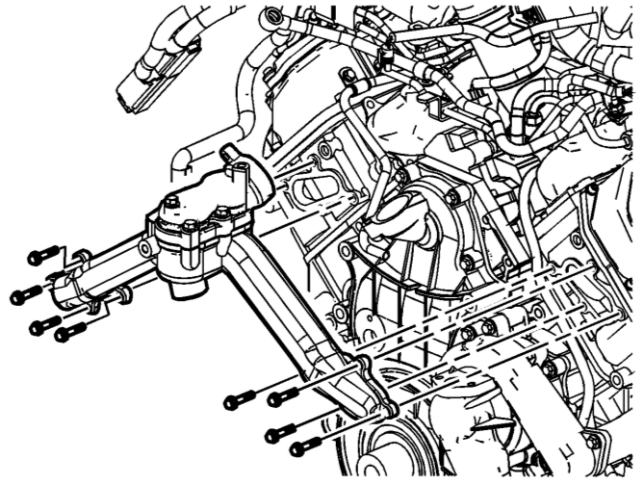


Remove water pump inlet pipe and turbo coolant hose.

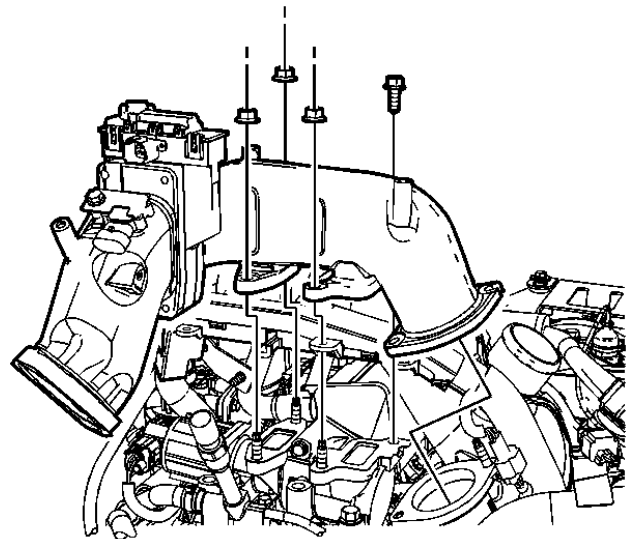


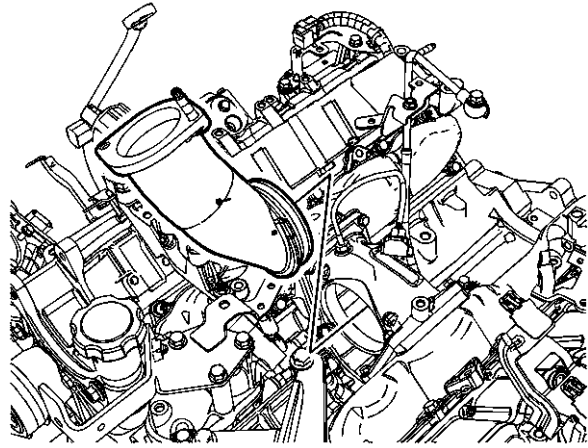
Remove thermostat housing crossover pipe.

**Note:** Remove fuel line and harness brackets from housing before removal.

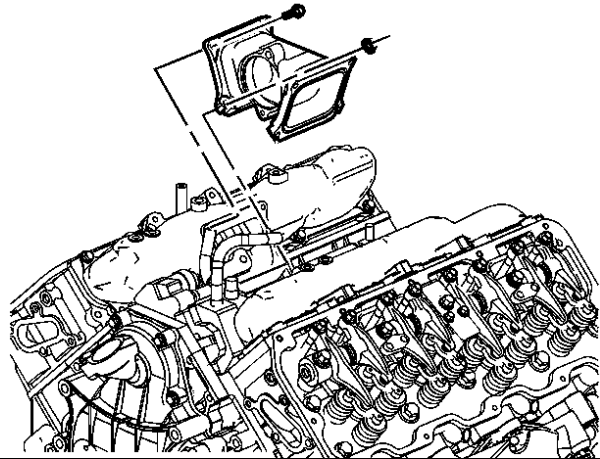


Remove harnesses off of air inlet tube, and remove intake pipe from engine as shown.

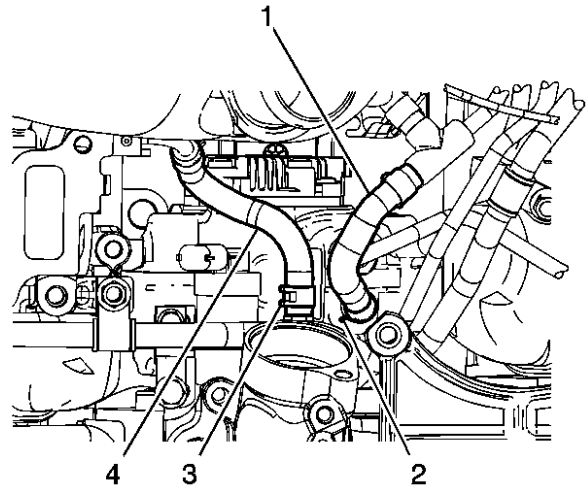




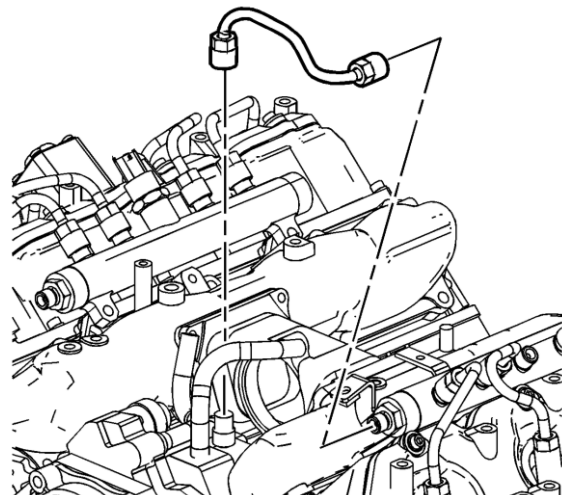
Remove intake tube and intake center section as shown.



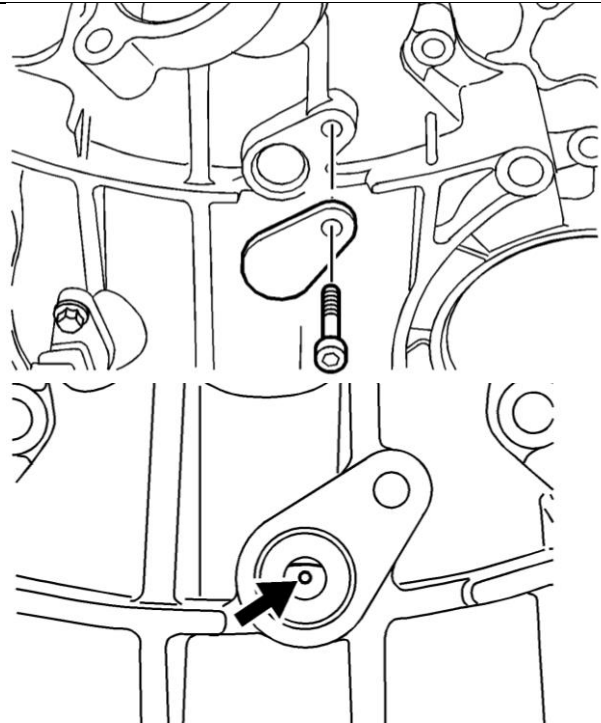
Remove Fuel Feed Hose (#4) and Fuel Return Hose (#1) from injection pump.



Remove Fuel Rail Feed Pipe by unscrewing nuts on fuel injection pump and fuel rail.

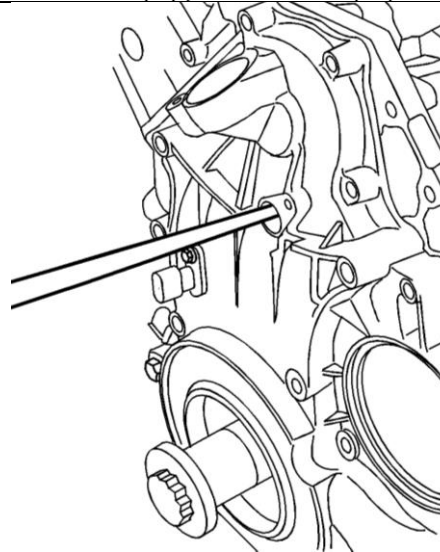


Remove camshaft gear access hole cover, and rotate crankshaft until camshaft tension relief hole is inline with access hole (as seen in image).

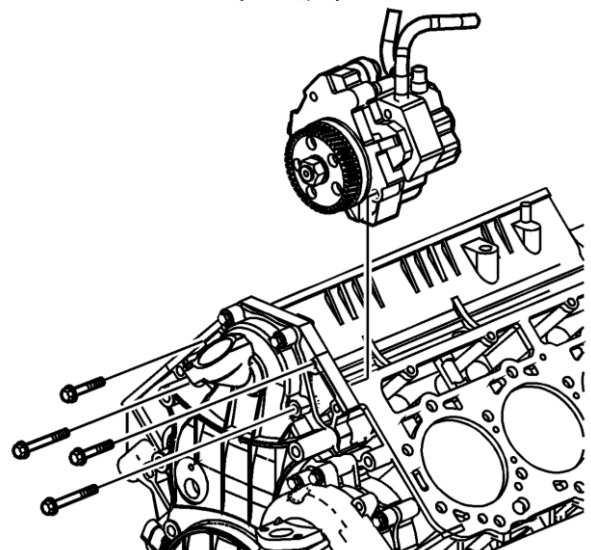


Use suitable tool to unload spring tension from two-piece cam gear.

**Note:** Apply pressure towards right side of engine while removing injection pump.



Remove four bolts securing injection pump, and remove pump from the engine.



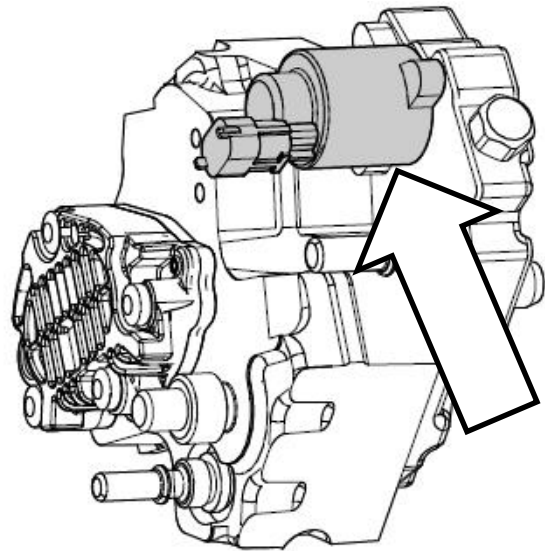


**ATTENTION:** This step is for 2001-2005 model year trucks only. If model year 2006-2011 please skip this step.

Remove Fuel Control Actuator (FCA) from R900 CP3 pump and discard.

Remove FCA found on original CP3 pump, and install it into the R900 CP3 pump.

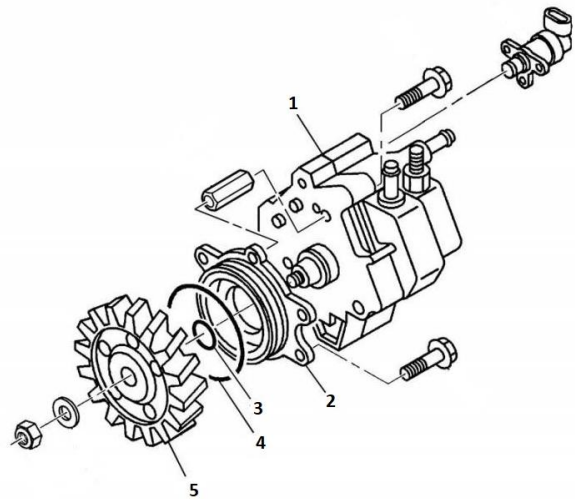
**Note:** If the original FCA is worn or damaged, see below replacement Bosch part numbers:  
2001-2004 Part No.: 092800535  
2004.5-2005: Part No.: 092800635



Remove drive gear (#5) and adapter (#2) from original CP3 pump (#1).

Reinstall these items onto R900 CP3 pump. Apply some light oil to orings (#3 & 4) to aid with install.

**Gear nut Torque Spec:** 52 ft-lbs (70 Nm)



Installation of R900 CP3 pump is the reverse of the above steps.

Once fully assembled, fill coolant and prime fuel system.  
Start vehicle and check for leaks. Installation of R900 CP3 pump is complete.



## Appendix A

The below chart shows R900 CP3 pump output flow versus Fuel Control Actuator (FCA) command.

