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DUAL HIGH PRESSURE FUEL KIT

GM 6.6L LML DURAMAX

INSTALLATION INSTRUCTIONS

TROUBLESHOOTING:

Please read and understand all installation instructions before proceeding with the installation. If you have questions during the installation of this product, please email H&S Motorsports support at tech@hs-motorsports.com

Included parts:

- 1 - New Bosch Cp3 Pump
- 1 - HSM Pulley
- 1 - Serpentine Belt
- 1 - Pump Bracket/ Hardware
- 1 - Injection Pump Harness
- 1 - High Pressure Fuel Line/ Fittings
- 1 - HSM Fuel Filter Conversion Kit/ Fittings

Note: Custom tuning must be used with this product. More information can be found at www.hs-motorsports.com/calibrations. This kit requires an aftermarket fuel delivery system. This kit may not work with some factory parts installed.

STEP 1



Disconnect battery terminals, remove air box and tube assembly. Remove factory Serpentine belt.

STEP 2



Locate and remove the factory lower idler pulley below the tensioner.



STEP 3



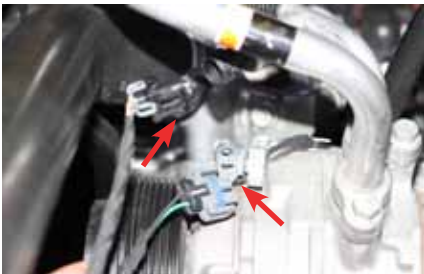
Re-using the factory idler bolt install the supplied idler spacer into the back of the larger supplied pulley as shown. Reinstall onto factory location with bolt. Torque to 40 ft lbs.



STEP 4



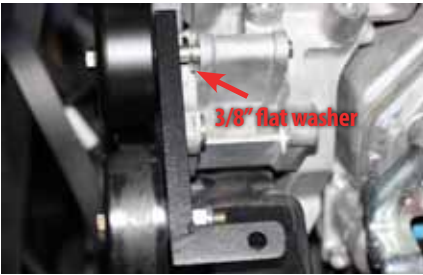
Locate and unplug the 3 A/C compressor clutch and pressure switch harnesses as shown.



STEP 5



Gather the supplied dual idler bracket, idler pulley and hardware shown. The factory idler that was removed in step 3 will be re-used in this step. Be sure to install the 3/8" flat washer between the dual idler bracket and factory bracket. Tighten all bolts to 45 lbs.



STEP 6



Gather the supplied pump bracket, Cp3 and hardware shown. Install the three longer 5/16 bolts into the front of the pump with lower bolt going into coupling nut. Install shorter 5/16 bolt and lock washer into back of coupling nut on rear of pump. Tighten the lower bolt assembly first then the uppers. Torque to 25 ft lbs.



STEP 7



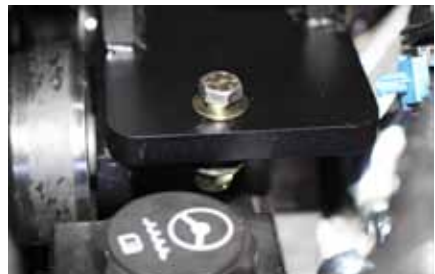
Install supplied Cp3 Pulley, lock washer and nut. Torque to 77 ft lbs. Gather 3 M10-1.5X30MM and one 3/8X16X1.5 bolt with washers and nylon nut as shown.



STEP 8



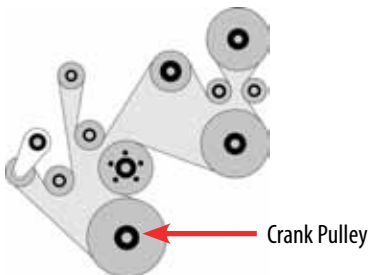
Install Cp3 Pump assembly into vehicle. Using 3 M10-1.5X30MM bolts align the pump bracket holes with the factory hole locations, do not tighten. Install the 3/8X16X1.5 bolt into the pump/ idler bracket support, do not tighten. With all 4 bolts loosely threaded now tighten the 3 M10-1.5X30mm bolts first, then the 3/8X16X1.5. Torque all to 45 ft lbs.



STEP 9



Install the supplied serpentine belt and route as shown.



STEP 10



Re-install the 3 A/C wiring harnesses, routing them through the underside of the Cp3 pump and re-connect. Drain coolant. (Optional for less mess) Remove upper Radiator hose from Radiator, remove clamp. Trim 1 inch off the end of the coolant hose and reinstall. Check that there is clearance between the hose and Cp3 pulley. Re-install clamp and check coolant level.



STEP 11



Remove factory return line with quick disconnect tool provided.



STEP 12



Loosen T-bolt clamp at turbo on factory intercooler pipe just moving pipe up and out of the way.

STEP 13



Remove wiring harness bracket by removing clip and bolt on rear upper left valve cover as shown.



STEP 14



Remove the three bolts from factory heat shield around fuel rail pressure sensor as shown.

Note: it may be necessary to remove 10mm head hold down bolt on factory low pressure fuel lines and slightly bending fuel lines up to gain access to one heat shield bolt under factory low pressure fuel lines for removal of bolt. Bolt is difficult to access but can be done with a 13mm end wrench and proper angles.



STEP 15



Remove factory fuel rail pressure sensor.

STEP 16



Install HSM fuel rail feed fitting into back of driver side high pressure fuel rail where sensor was removed and torque to 70 ft lbs.



STEP 17



Put HSM fuel distribution block into a vise. Install factory fuel rail pressure sensor into block and torque to 70 ft lbs.



STEP 18



Install HSM fuel distribution block onto drivers rear valve cover with m8x1.25x16mm flange bolts as shown.

Note: *it may be necessary to leave bolts slightly loose and install high pressure fuel lines for proper alignment before torquing bolts to 20 ft lbs.*



STEP 19



Placing a dab of oil on each end of the high pressure fuel lines to help seat them, install supplied high pressure fuel lines as shown. Once proper alignment of lines is achieved with distribution block, torque flange bolts and tighten all high pressure fuel lines.

STEP 20



Locate the factory Cp3 pump wire harness. Disconnect and install the new supplied wire harness.



STEP 21



Remove factory fuel filter and lines. Gather hardware and assemble fuel filter conversion as shown. Install filter conversion in stock location using the supplied M8X1.25X30MM bolts.

Note: It may be necessary to remove the heater hose support bolt on top of the OEM fuel filter bracket in order to make room for the fuel filter lines.



STEP 22



Install the supplied fuel feed and return fittings with o-ring washers onto the pump. Then install the two push-lock hose fittings (one straight, one 90 degree) on the rear of the Cp3 pump as shown. **Note:** Push-lock fittings do not require hose clamps. Put a dab of oil on hose barb end and push hose on to barb. Route Fuel lines away from heat or any places where the lines will rub. Routing may vary due to different fueling and turbo setups.



STEP 23



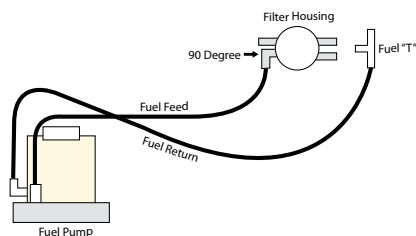
Install the low pressure fuel feed and return lines. Route the 3/8 inch hose from the 90 degree hose barb fitting on the rear of the fuel filter conversion kit to the rear of the Cp3 low pressure feed straight push-lock fitting. Tighten clamp. **Note:** Hose will need to be cut to length.



STEP 24



Route two 1/2 inch hose lines to the factory fuel supply as shown. Tighten clamps. **Note:** hoses will need to be cut to an approximate length of 7.5 inches to prevent kinking.



STEP 25



Locate and remove the factory return fuel line as shown on driver side valve cover. The black factory heat shield will need to be removed. **Note:** GM changed low pressure fuel lines late 2011, see pictures below for your configuration.



STEP 26



Using provided low pressure fuel line fittings, install fuel "T" and plumb return fuel system as shown. Install the supplied 3/8 "T" fitting as shown. Route the pump return line from the 90 degree push-lock on the top of the Cp3 pump to one side of the "T" and the supplied 3/8 inch hose back to the factory return line.



STEP 27



Tighten all clamps and fittings. Turn key on, check for any leaks. Install intercooler pipe back onto turbo outlet and tighten clamp.

Note: Route fuel lines away from heat or any places where lines will rub.

STEP 28



Please install your custom tuning. More information can be found at www.hs-motorsports.com/calibrations



H & S Motorsports, LLC

4160 South River Road
St. George, UT 84790

WWW.HS-MOTORSPORTS.COM