

CP4 to CP3 Conversion Kit INSTALLATION INSTRUCTIONS

2011-2016 LML Duramax

(No Tuning Required Kit)

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NO WARRANTY STATEMENT

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Disconnect the negative battery cables from both the passenger side and the drivers side batteries.



STEP 2

Remove the factory intake assembly and resonator.

Note: In order to remove the factory intake, you will need to disconnect the upper coolant hose on the coolant bottle. and disconnect the air intake sensors.



STEP 3

Disconnect all sensors from factory intake horn, and remove factory intake horn from vehicle.



Remove the plastic elbow that connects to the turbo, then continue to remove the EGR system from the vehicle if still equipped.



STEP 5

Remove the factory Y bridge from the valley of the engine.



STEP 6

To gain access to the front of the engine, we recommend removing the fan shroud and fan. Start by disconnecting the upper radiator hose and moving it out of the way. Remove the upper fan shroud and unbolt the fan hub. Remove the serpentine belt, unbolt the AC compressor and move it out of the way. Once that is out of the way you can continue to remove the fan shroud and fan hub from the vehicle.

Note: you will need to remove the TCM from the shroud and set it out of the way before you remove the shroud from the vehicle.

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Remove the belt tensioner and the alternator in order to gain access to the front mounting belts of the CP4.



Remove both of the high pressure fuel lines that route from the top of the CP4 to the passenger side fuel rail.



STEP 9

Remove the low pressure fuel line in the valley of the engine to the fuel filter housing. Disconnect the pressure fitting in the valley and loosen clamp at fuel filter housing to remove.

Note: a new fuel line is supplied for increased pump clearance.

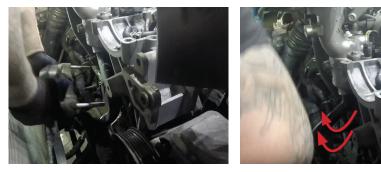


STEP 10

Disconnect and remove the low pressure fuel supply hose and the low pres sure fuel return hose from the CP4. Remove banjo bolt from the 9th injector feed line and remove the two bolts securing the feed line assembly to the block.



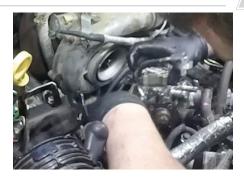
In order to gain access to the CP4 mounting bolts you will want to remove the fan pulley and mount. Then twist the water pump outlet pipe to gain access to the CP4 mounting bolts.



STEP 12

Remove the four CP4 mounting bolts on the front of the engine, then remove the CP4 from the valley of the engine.

Note: you may need to gently pry on the CP4 to help with removal. Note: make sure all electrical connections are disconnected from the CP4.



Remove the green temperature sensor on the bottom of the CP4. Install the sensor into the supplied mounting block and mount it to the empty hole on the drivers side of the AC compressor mounting location. Re-insert the connection.







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STEP 14

Using the supplied plug and cap, install it onto the rail on the third port and tighten.



With the CP4 removed from the truck, you can now proceed to remove the gear from the CP4 to reuse on the CP3.

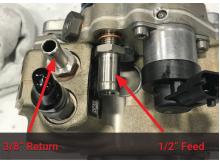
Note: you may need to use a gear puller in order to remove the gear.



STEP 16

Locate your new CP3 and hardware to prepare for installation. You will first remove the factory return and feed fittings. Replace them with the new supplied return and feed fittings using the supplied copper sealing washers.







Install supplied CP3 shaft o-ring seal and apply grease. Install supplied CP3 mounting bracket using supplied hardware and lock washers. Then install outer o-ring and apply grease.



STEP 18

Install the CP4 gear onto the CP3 using the factory CP4 nut. Torque to 85 lb ft.

Note: when fully tightened, the nut will not be totally threaded onto the CP3 shaft.



You can now install the new CP3 into the valley of the engine. Utilize the four factory CP4 mounting bolts to install. Be mindful of the routing of the 9th injector feed line hose. Make sure you do not bump the line and accidentally loosen the banjo bolt.

Note: The feed line banjo bolt to cp3 torque is 89 lb-inch

STEP 20

Install the supplied 1/2" fuel feed hose from the filter housing to the CP3.

Reconnect the line that goes from the CP3 to the 9th injector hard line.

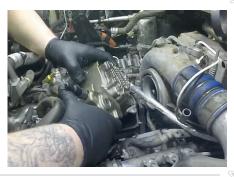


Bolt down the 9th injector hard line assembly. Reconnect the line that goes from the CP3 to the 9th injector hard line.

Note: Torque the banjo bolt to 89 lb-inch











Re-using the factory 3/8" hose, install fuel return hose to the CP3.



STEP 23

You can now install the supplied low pressure fuel feed hard line in the valley of the engine to the filter housing. Torque to 26 lb-ft.

Note: Use the supplied lubricant on the threads of the new low pressure feed line, this will help with sealing and prevent fuel leaks and hard starts.



STEP 24

You can now install the supplied high pressure fuel line from the CP3 to the passenger side fuel rail.







You can now re-assemble the remaining parts of the truck that were removed. Before starting your truck be sure to check all fluid levels and top them off if needed.

Note: before attempting to start your truck, after changing the fuel filter, you will want to bleed the low pressure fuel system.

Note: while truck is running, make sure to check all fuel fittings for leaks.

LML Wire Colors

Fuel Control Actuator Wires at CP3 Pump

Black & Yellow

Pressure Relief Front Of Drivers Rail

Purple/White Tracer & Yellow

Fuel Temp Sensor in New Aluminum Block

Brown/Grey Tracer & Brown/White Tracer



800-955-0476 2858 South 300 West Salt Lake City, Utah 84115

www.industrialinjection.com