

SUNCENT

2017-2024 6.6L Duramax L5P

EGR Delete Kit

Installation Manual

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Warning Regarding Emissions Laws

Not legal for sale or use on pollution-controlled motor vehicles anywhere in the United States. Legal ONLY for off-road competition racing vehicles and cannot be used on vehicles that are operated on public streets, roads, or highways.



Disclaimer

(1) Assumption of Responsibility

By installing this product on your vehicle, you assume all risks and legal liabilities associated with the use of this product.

(2) Regulatory Compliance Obligations

- You are responsible for ensuring that your vehicle fully complies with federal, state and local emission regulations. (Federal and certain local laws prohibit the removal, modification or disabling of any component that affects vehicle emissions or safety design.)
- Fine penalties or fines resulting from the removal of vehicle emission equipment shall be borne by the end user.
- Use on public roads or highways is prohibited. Violators may face fines.
- All civil penalties or fines resulting from the removal of vehicle emission equipment shall be borne by the end user.

(3) Impact of Factory Warranty

Due to the high performance characteristics of this product, the factory warranty provided by the vehicle manufacturer may be affected and invalidated.

(4) Product Misuse Disclaimer

SuncentAuto assumes no liability for improper use or installation of the product. By installing this product, you are deemed to have released SuncentAuto from any and all legal liability related to its use.

(5) Regional Legal Restrictions

The installation or use of this product may be restricted according to local regulations. Please check all applicable laws before operation.

(6) Legal Liability Exemption

The purchaser and end user agree to release SuncentAuto from any claims, damages, lawsuits, injuries or expenses caused by the following actions, including but not limited to:

- Breaking the terms of this statement, product disclaimer or installation instructions;
- Direct, indirect, incidental, punitive, statutory or special damages or penalties arising from the installation or use of this product.



Installation Precautions

(1) Never Work on a Hot Vehicle

If the vehicle is in use, severe burns may occur. Allow the vehicle to cool before installation. Always wear goggles when working on or under any vehicle.

(2) Remove Rust/Lubricate Fully Before Disassembly

Older vehicles have more rust on the bolts. Before disassembly, spray rust remover (WD-40) and wait for 10 minutes. Remove rust/lubricate fully before disassembly to prevent damage to the screws. (We have received many cases of damage, so we would like to remind you of this.)

(3) Add Coolant After Installation

After the product is installed, please remember to add enough coolant to ensure that the water level scale of the auxiliary water tank is at the standard water level when the thermostat is open (large cycle).

STEP 1

Disconnect the negative battery cables from both batteries.

STEP 2

Remove the passenger side inner fender liner.

STEP 3

Drain the Engine coolant from the passenger side lower corner of the radiator by removing the plastic threaded plug.



Note: The coolant tank cap is reverse thread, But we recommend not removing the cap right away otherwise coolant will blast out from the drain plug all over the front suspension. Leave the tank cap on, and let the coolant drain out slowly into the bucket, much less mess this way.

STEP 4

Remove the intake pipe & Intake air box.

STEP 5

Next remove the heat shield on the EGR hot side pipe circled below that connects the EGR valve to the Cooler and to the Y-bridge. Then remove the six 13mm head bolts holding the pipe on.

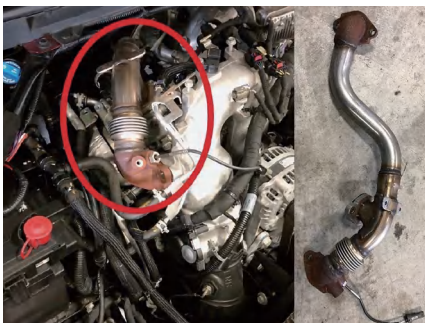


Image 1

STEP 6

Next remove the turbo intake horn and PCV hose. The PCV Hose has a non-removable metal band on it, loosen/spin clamp with a hood tool or flat blade screw driver first and then with pulling force and a flat blade screw driver or pry bar pushing on the bottom of the hose, the hose will disconnect from the horn with the metal band remaining in place. Leave the PCV hose connected to the PCV box on the driver side upper valve cover.

STEP 7

Two bolts connect the horn to the turbocharger; you will need to use a 13mm SWIVEL SOCKET $\frac{1}{4}$ " drive and long extension to remove these bolts. If you drop them not a big deal they will be easy to access soon.



Image 2

STEP 8

Remove the small diameter aluminum coolant line assembly that is bolted to the top of the Y-bridge. Leave all connecting hoses in place, just remove the aluminum hardline assembly only at this point.



Image 3

STEP 9

Next, remove the 13mm head bolt on the plastic cold side pipe support bracket and then disconnect the plastic intercooler pipe from the cast aluminum Y-bridge/throttle blade connection. This is a twist style connection and will need a slight clockwise rotation and pulling down motion on the pipe to become disconnected. Once disconnected, cover the intercooler pipe with a plastic bag or shop rag to keep anything from falling in during the rest of the project.



Image 4

STEP 10

Now disconnect the wire harness that sits on top of the y-bridge. There are several Christmas tree style clips all along the harness and smaller connectors, remove all that are associated with the harness on top of the y-bridge so that the bridge can be removed. Disconnect the connectors on the throttle blade as well.

STEP 11

Before the Y-bridge can be removed the AC Compressor needs to be unbolted. With a $\frac{1}{2}$ " Ratchet on the belt tensioner, release tension and remove the serpentine belt from the upper pulleys. (You do not need to remove the belt completely)

STEP 12

Remove the bale connector bracket on top of the AC Compressor and set it aside.



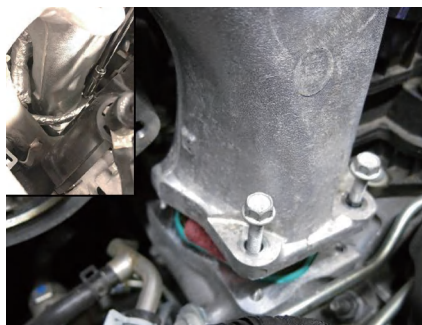
Image 5

STEP 13

Remove the four 15mm head bolts holding the AC Compressor down and slide the Compressor forward towards the fan shroud so that you have better access to the Y-bridge bolts.

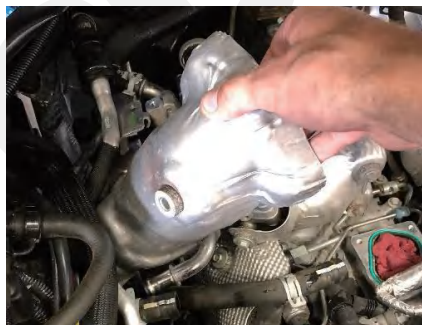
STEP 14

With a ¼" drive 10mm socket and long ¼" extension, remove all eight bolts (4 on each runner) that hold the Y-bridge to the intake runners. Once removed, the Y-bridge will come forward slightly and then up and out. The 10mm head bolts will stay in the holes of the y-bridge by way of the OEM rubber inserts, but still be very cautious of any hardware or parts falling while removing the bridge as both intake runners are open. Once Bridge is removed, stuff rags into the intake runner ports. Set bridge aside for reinstall later.

*Image 6**Image 7*

STEP 15

Now remove the heat shield on the shorter EGR hot side pipe connecting the Lower EGR valve to the Upper EGR valve, and then remove the four 13mm hex head bolts holding the pipe on and remove the pipe.

*Image 8**Image 9*

STEP 16

Disconnect all the coolant hoses at the upper EGR valve, and then you can remove the four 13mm hex bolts/nuts that hold the lower EGR valve to the exhaust manifold and then remove the lower EGR valve.



Image 10

STEP 17

With the lower EGR valve removed, you can install the included steel manifold blanking plate (along with new gaskets and hardware) onto the exhaust manifold, reusing the two factory studs and nuts and torquing to the factory specified standard torque.

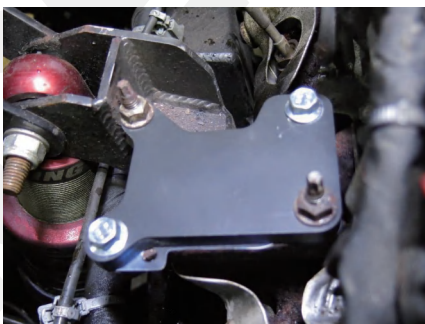


Image 11

STEP 18

Next, the two large diameter steel coolant pipes from the thermostat cross over housing feeding the EGR cooler can be removed. Total of one large spring clamp just next to the turbo (leave spring clamp on this hose, it will be reused) four 10mm hex head bolts, and one 13mm hex head bolt will be removed. All circled below:



Image 12

STEP 19

In the supplied parts bag of the EGR Fix Kit locate the Billet Plug with O-ring and apply grease to the O-ring, then install the plug into the coolant port on the thermostat housing just in front of the passenger side intake port. Fasten with the OEM bolt that was removed in the previous step.



Image 13

STEP 20

At the top of the EGR cooler, disconnect the small coolant line from the turbocharger to the EGR.



Image 14

STEP 21

Then remove the five 13mm hex head bolts that hold the EGR cooler to the engine and remove the cooler assembly.



Image 15

STEP 22

Next, remove the passenger side aluminum coolant tube that connects the firewall heater core hose to the lower radiator hose. At the end of the heater core hose (circled in the photo below), use a flathead screwdriver to loosen the clamp that holds the quick connector and tube upward. Once disconnected, push the small clamp back down into place.



Image 16



Image 17

At the bottom of the tube, just in front of the upper control arm, disconnect the hose from the tube and leave the spring clamp on the hose for reuse. Also remove the bolts that connect the tube to the engine.

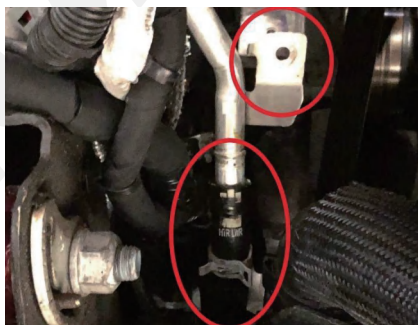


Image 18

There is also a smaller diameter line welded to this tube that delivers coolant to the urea injector. These small rubber tubes also need to be disconnected from the line so that it can be fully removed. Here are the removed components: (Image 19)



Image 19

STEP 23

Now install the 20" Long, 5/8" Hose Assembly in place of the hardline that was removed above. The brass barb fitting will install to the OEM hose at the bottom with the OEM spring clamp, shown below.



Image 20

STEP 24

The upper end of the new hose assembly will quick connect to the heater core hose fitting just like the OEM hardline did, simply push together until it clips into place.



Image 21

STEP 25

Disconnect the small rubber hoses at the Urea Injector located in the front elbow of the exhaust system just below the down pipe and remove the hose/hardline assembly from the side of the engine block that connected to the line you just removed above, and to the lower radiator hose.



Image 22

STEP 26

Locate the 5/16" Barbed Plug and clamp and insert the plug into the rubber hose that was just disconnected from the assembly in Step 25. (This hose is connected to the main, large, lower radiator hose) Fasten clamp and zip tie the line up so that it is secure.



Image 23

STEP 27

The photo below shows where to install the supplied ¼" silicone cap and hose clamp to plug the no longer needed coolant port on the coolant supply line (below) leading to the turbine center section.



Image 24

STEP 28

Locate the heater hose line assembly which has quick-connect fitting on one end and a 1.3" diameter aluminum barb on the opposite end. Install this hose from the heater core fitting on the firewall, which simply clips into place, and the barb end into the hose from the thermostat housing just next to the turbo using the OEM spring clamp that remains in place from earlier.



Image 25



Image 26

STEP 29

a. 2017-2019

The supplied 15" long, 3/8" diameter coolant line can be installed to the upper turbo coolant line using the OEM spring clamp. The brass barb end will connect to the OM coolant line that tees into the coolant tank hose near the battery.



Image 27

b. 2022+

Reroute the turbocharger cooling line to the coolant overflow tank as shown.

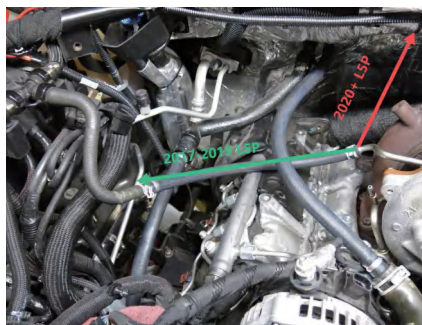


Image 28



Image 29

STEP 30

Locate the bridge fender. 8 mm flange head bolts and washers are included. Install the fender onto the Y-bridge and tighten the flange bolts to the factory torque.



Image 30

STEP 31

Reinstall the radiator coolant drain plug and refill the coolant.



Note: The coolant tank cap is reverse thread.

STEP 32

Reinstall Intake assembly.

STEP 33

Reinstall Fender Liner.

STEP 34

Start truck and check for any leaks after some idle time. It may take a few heat cycles before the coolant system burps all the air, so you may need to top off coolant once or twice.