

# **SINISTER** **DIESEL**



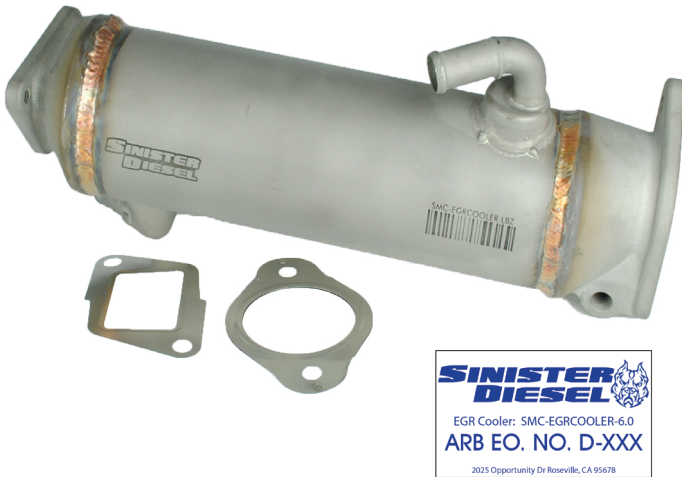
**2007.5-2010 GM**  
**6.6L DURAMAX LBZ**  
**EGR COOLER**



## DISCLAIMER

- 1) By installing this product onto your vehicle, you assume all risk and liability associated with its use.
- 2) It is your responsibility to make sure your vehicle complies with all federal, state, and local emissions laws. Federal and many state and local laws prohibit the removal, modification or rendering inoperative of any part of the design affecting emissions or safety on motor vehicles used on a public street or highway. Violation may result in a fine of up to \$32,500 per vehicle (or possibly higher depending on changes in the law). All civil penalties and fines for removing your vehicle's emissions equipment are the sole responsibility of the end user.
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# GM LBZ Duramax EGR Cooler



## **PACKING LIST:**

### **Description**

- EGR Cooler
- Two Gaskets
- EO Sticker

***Read all instructions prior to install.***

***Note:*** Prior to installation, please compare the parts that you have received with the bill of materials provided on this page to assure that you have all the parts necessary for the installation.



**CAUTION!!!** Never work on a hot vehicle. Serious injury in the form of burns can result if the vehicle has been in use. Allow vehicle to cool prior to installation. Always wear eye protection when working on or under any vehicle.

**Note:** With a used vehicle, we suggest using a penetrating spray lubricant to be applied liberally to all exhaust fasteners. When doing so allow a significant amount of time for the chemical to lubricate the threads before attempting to disassemble.

**Step 1:** Disconnect batteries.

**Step 2:** Drain engine coolant by removing the passenger side inner wheel well and disconnecting the lower radiator line by removing the metal clip. (**Note:** The line does not need to be pulled all the way off, just enough to allow coolant to flow out.) Once coolant flow has slowed down and the overflow bottle is empty, re-connect the lower radiator line. (Image 1)

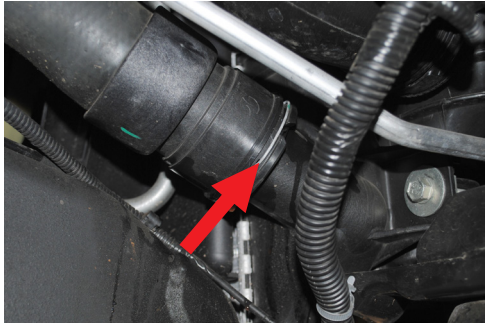


Image 1

**Step 3:** Loosen the hose clamps on the intake and disconnect the MAF sensor connector.



Image 2

**Step 4:** Remove the intake tube that is routed from the filter to the plastic turbo mouthpiece. (Image 2)

**Step 5:** Remove the air box and filter, by gently prying out the three rubber grommets. (Image 3)



Image 3

**Step 6:** Remove the resonator box on top of the engine by loosening the hose clamp at the base of the resonator box and remove the long bolt on the front of the resonator box. (Image 4)



Image 4

**Step 7:** Disconnect the charge-back wire on the alternator and remove the plastic clip that holds the wiring harness to the plastic wireway. (Image 5)

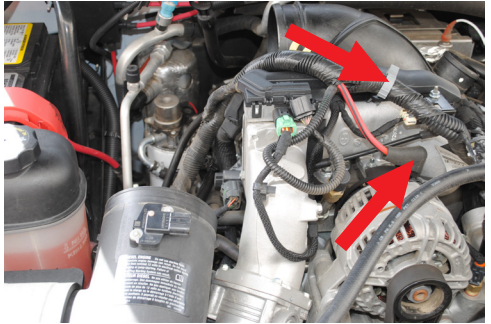


Image 5

**Step 8:** Open the plastic housing on top of the intake heater grid and disconnect the power wire. (Image 6)



Image 6

**Step 9:** Remove the two bolts and one nut that secure the plastic wire way in place. (Image 7)

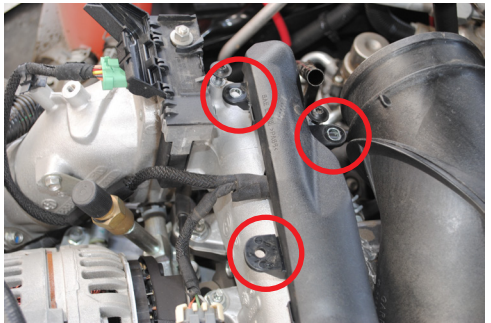


Image 7



**Step 10:** Disconnect the wire connector on the front of the intake heater grid and remove the bolt that secures the connector wires to the side of the intake. (Image 8)

**Step 11:** Remove the plastic clip that is also holding part of the wire in place. (Image 8)

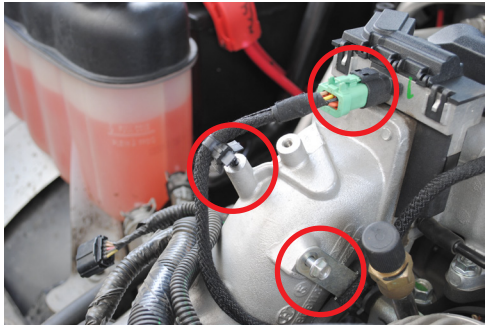


Image 8

**Step 12:** Pop out the metal retaining clip on the plastic intercooler piping and disconnect the plastic piece from the cast aluminum piece. (Image 9)

**Step 13:** Remove the wire connector and the four bolts that hold the forward most section of the cast intercooler piping on to the intermediate section. On the bottom of the forward most piece, there is a fifth bolt that secures it to a support bracket. (Circled in Image 9)



Image 9

**Step 14:** Carefully remove the forward most piece of the cast intercooler piping. As well as the butterfly valve and hard plastic tubing shown in image. Cover the flexible boot with bag to keep debris and coolant out of the intercooler. (Image 10)

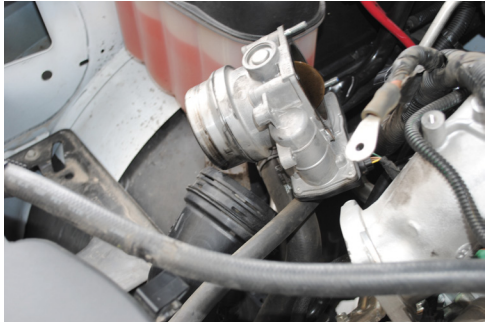


Image 10

**Step 15:** Remove the small tube that is attached to the cast intake, next to the intake heater grid. (Image 11)

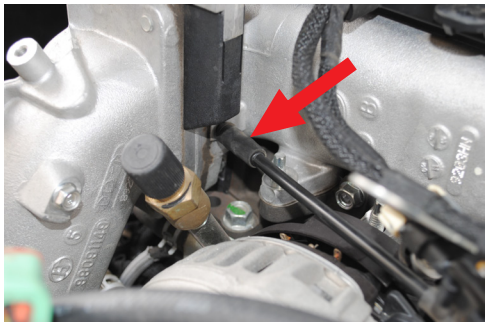


Image 11

**Step 16:** Remove the four nuts and two bolts that hold the main section of the cast intake in place. It may be easier to remove the intake from the truck if you remove the two studs with a reversed torx socket.



*Image 12*

**Note:** two bolts are located on the back side of the main section of the cast intake. (Image 12)

**Step 17:** Remove the PCV tube from the driver and passenger side valve covers as well as the plastic turbo mouthpiece. (Image 13)



*Image 13*

**Step 18:** Remove the plastic turbo mouthpiece by loosening the hose clamp that secures the mouthpiece to the turbo.

**Step 19:** Disconnect all of the coolant lines that are running to the EGR cooler.

**Step 20:** Remove the EGR cooler and valve that is secured by six bolts. Four at the back of the cooler (two bolts are facing forward and two are facing downward) and two rear facing bolts at the front of the cooler.



**Step 21:** Transfer the stock EGR valve from the original EGR cooler to the replacement Sinister EGR cooler. Be sure to remove the old gasket and use the supplied new one to properly seal the two mating surfaces.



*Image 14*

**Step 22:** Install new the Sinister Diesel EGR Cooler and valve in place of the previously removed factory EGR cooler. Secure the EGR cooler with the six factory bolts. Again use the supplied new gasket to properly seal the connection.



*Image 15*

**Step 23:** Re-connect the coolant lines to the upgraded EGR cooler.

**Step 24:** Re-install the plastic turbo mouth piece to the front of the turbo and secure it in place by tightening the hose clamp.

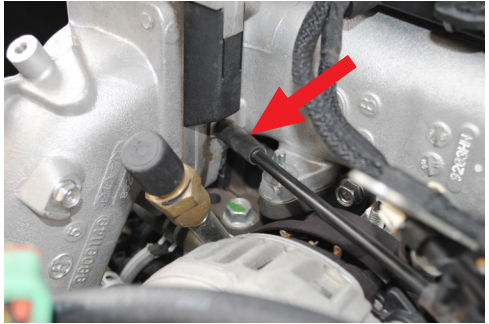
**Step 25:** Re-install the PCV tube securing the connections at the valve covers and also at the turbo mouth piece. *(Image 14)*

**Step 26:** Re-install the cast intake tube and secure it with the four nuts and two bolts. *(Image 15)*



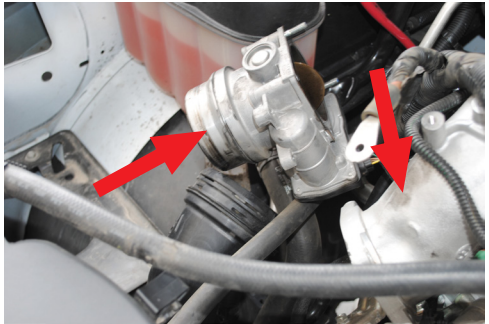


**Step 27:** Re-connect the small tube that attaches to the cast intake next to the heater grid. (Image 16)



*Image 16*

**Step 28:** Re-install the heater grid and the forward cast intake piece to the previously installed cast intake piece. There are four bolts that secure the cast intake piece and the heater grid to the intermediate cast intake tube. (Image 17)



*Image 17*

**Step 29:** Re-install the butterfly valve securing it with the three bolts and two nuts.

**Note:** One of the bolts secures the housing to a bracket attached to the motor. (Circled In Image 18)



*Image 18*

**Step 30:** Re-install the intercooler piping to the butterfly valve and secure it with the retaining ring. (Image 18)

**Step 31:** Re-connect and Re-secure the wires to the intake heater. (Image 19)



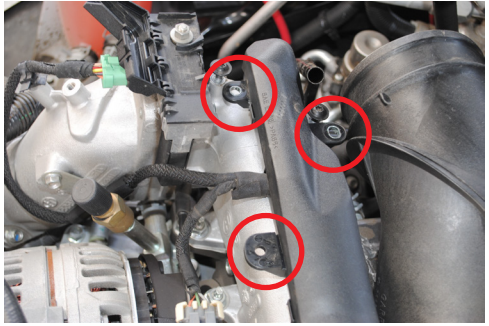
*Image 19*

**Step 32:** Re-secure the Plastic wire-way with two bolts and one nut (*Image 20*)

**Step 33:** Re-connect the power wire to the intake heater grid and close the cover. (*Image 21*)

**Step 34:** Re-connect the charge-back wire on the alternator and re-install the plastic clip that secures the wiring harness to the plastic wire way. (*Image 22*)

**Step 35:** Re-install the resonator box on top of the engine. Tighten the hose clamp at the base of the resonator box and re-install the long bolt on the front of the box. (*Image 23*)



*Image 20*



*Image 21*



*Image 22*



*Image 23*

**Step 36:** Re-install the air intake box and filter. Image shows the location on the vehicle with the box removed. (Image 24)



Image 24

**Step 37:** Re-install the intake tube that routes air from the intake box to the turbo mouthpiece. (Image 25)

**Step 38:** Tighten all of the hose clamps on the intake tube and reconnect the MAF sensor.

**Step 39:** Re-connect the batteries and re-fill the coolant to factory specifications. Double check the coolant level after test driving.



Image 25

**Step 40:** Place EO sticker on plastic cover above radiator. (Image 26)



Image 26



2025 Opportunity Dr.  
Roseville CA, 95678  
877-692-4110 - [SinisterDiesel.com](http://SinisterDiesel.com)