

# **SINISTER** **DIESEL**



**2008-2010**

**6.4L POWERSTROKE**

**FORD EGR COOLER**

# Sinister Diesel 6.4L Powerstroke EGR Coolers



## **PACKING LIST:**

### **Description**

-Vertical Cooler w/ 2 Gaskets

-Horizontal Cooler w/ 2 Gaskets and 2 M8 Flanged Nuts

*(You may only have one or both depending on your order)*

***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:** Installation of the Sinister Manufacturing Company EGR Cooler requires disassembly of coolant lines, resulting in coolant loss. We suggest draining the coolant before you start.

**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. Apply to nuts indicated in image 7 and 12.

**Step 1:** Make sure the front wheels are straight and the steering wheel is not locked.

**Step 2:** Disconnect both batteries.

**Step 3:** Drain the coolant using the coolant drain plug located on the bottom of the radiator on the driver side. (Image 1)

**Step 4:** Remove the 3/8" hose that runs to the degas bottle (coolant overflow tank). Keep hose as it will be reused during installation. (Image 2)

**Step 5:** Remove the upper radiator hose by popping the wire clip out and pulling the hose straight out. (Image 3)



Image 1



Image 2



Image 3

**Step 6:** Remove the driver side battery.

**Step 7:** Remove all of the coolant hoses going to the degas bottle. Also, remove the vent line going to the battery tray.



Image 4

**Step 8:** Remove the battery tray and degas bottle. This is held on by four bolts.

*(Image 4 - shows parts removed)*

**Step 9:** Loosen the clamp on driver side intercooler tube and separate the intercooler tube from the rubber boot. It is not necessary to remove the tube.

*(Image 5)*



Image 5

**Step 10:** Disconnect the electrical connector on top of the vertical cooler. *(Image 6)*

**Step 11:** Disconnect all the coolant lines running to the vertical EGR cooler. Remove the nuts and bolts securing the coolers together. Release the mounting clamps, and separate the two coolers by prying on the flanges. *(Image 7)*

*Note: When prying on the flanges, be careful not to tear the bellows.*



Image 6

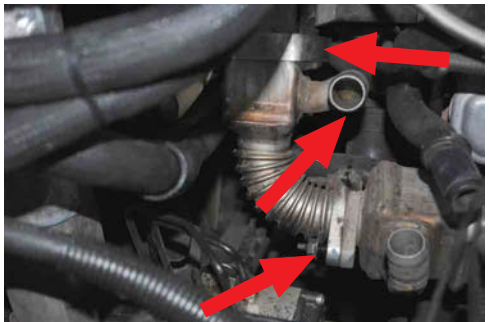


Image 7

**Step 12:** Hold the intercooler tube back while pulling the vertical EGR cooler up and out. You may have to rotate the cooler to release it from its mount. (Image 8)

*Note: If you are not replacing the vertical EGR cooler, skip Step 13.*

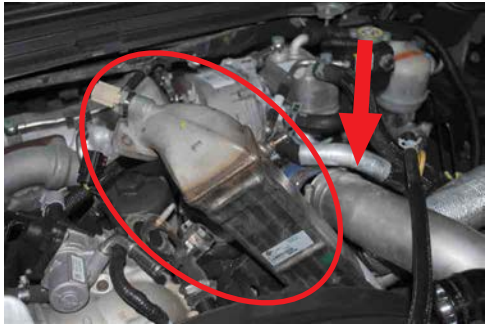


Image 8

**Step 13:** Remove the temperature sensor from the top of the vertical EGR Cooler. Re-install the temperature sensor onto the Sinister Diesel Upgraded EGR Cooler. (Image 9)

*Note: If you are only replacing the vertical cooler skip to step 23.*

**Step 14:** Remove the steering shaft bolt, and slide the stem up and out of the steering box shaft. **Note:** Be sure to not turn the steering wheel or tires. (Image 10)



Image 9



Image 10

**Step 15:** Remove the nut that secures the dipstick tube in place. (Circled In Image 11)

**Step 16:** Release the mounting clamps on the lower EGR cooler. It may be easier to access the clamps through the wheel well. (Image 11)



Image 11



**Step 17:** Remove the coolant line on the EGR Cooler. This hose will be reused for installation. Be careful not to damage the hose. *(Circled In Image 12)*



*Image 12*

**Step 18:** Remove the bolts on the rear flange of the EGR cooler. It is easier to access the bottom bolt from underneath the truck and the top bolt from above. *(Image 12)*



*Image 13*

**Step 19:** With the dipstick moved out of the way, remove the EGR cooler by pulling forward and rotating it out of its mount.

**Step 20:** Place the horizontal EGR Cooler into the factory location. Re-install the bolts on the rear flange of the Upgraded EGR Cooler. Torque the bolts to factory torque specifications. *(Arrow In Image 12)*

**Step 21:** Reconnect the coolant hose to the horizontal EGR Cooler. Re-secure the clamps that hold the EGR cooler in place. Also reinstall the nut that secures the dipstick in place. *(Image 13)*

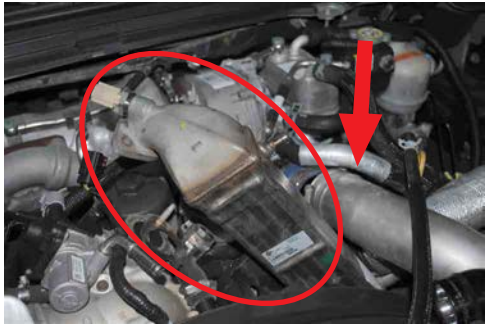


**Step 22:** Reconnect the steering shaft and re-install the bolt to secure it. Tighten the bolt to factory torque specifications. *(Image 14)*



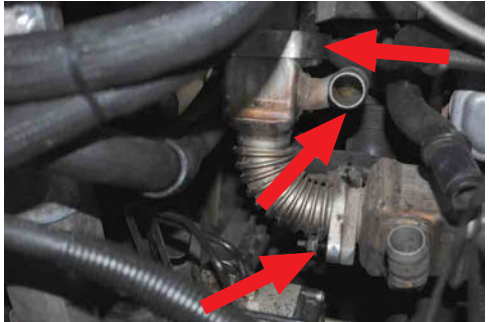
*Image 14*

**Step 23:** Holding the intercooler tube out of the way, put the vertical EGR cooler back in place. *(Image 15)*



*Image 15*

**Step 24:** Reinstall the nuts and bolts securing the coolers together. Re-secure the mounting clamps. Reconnect all of the coolant lines to the vertical EGR cooler. *(Image 16)*



*Image 16*

**Step 25:** Reconnect the electrical connector on top of the vertical cooler. *(Image 17)*



*Image 17*

**Step 26:** Reinstall the intercooler tube, and tightly secure the hose clamp in place. *(Image 18)*



*Image 18*

**Step 27:** Reinstall the battery tray and degas bottle securing it with four bolts.

**Step 28:** Reinstall all of the coolant hoses going to the degas bottle. Also, reinstall the vent line going to the battery tray.

**Step 29:** Reinstall the driver side battery.



*Image 19*

**Step 30:** Reinstall the upper radiator hose. Clip the wire clip back into the keeper slot. *(Image 19)*

**Step 31:** Reinstall the 3/8" hose that runs to the degas bottle (coolant overflow tank). *(Image 20)*



*Image 20*

**Step 32:** Making sure the drain valve is closed, follow the factory procedures to refill the coolant. We recommend using the factory specified coolant. *(Image 21)*

**Step 33:** Reconnect both batteries.



*Image 21*