



**COLD AIR MANIFOLD INSULATOR INSTRUCTIONS**  
(On a 2004 Cadillac CTS 3.6L V6)



NOTE: These instructions are based on a 2004 Cadillac CTS with a 3.6L engine. The airbox is not stock in these photographs.

### PART 1 – REMOVING MANIFOLD

**Step 1:** Remove the oil cap. Then pull up on the engine cover and remove. Replace the oil cap.



Remove oil cap.



Lift up on the engine cover and remove.

**Step 2:** Remove the intake resonator.



Loosen these two clamps



Remove this hose by pulling out. Then pull the resonator back from the throttle body and away from the MAF to remove.

**Step 3:** Remove the throttle body connector.



Slide out the yellow tab.



Squeeze in the connector tab and remove plug.

**Step 3:** Remove wiring harness and vacuum line.



Slide the plastic wiring harness ring support from the throttle body.



Push the support down and out of the way.



Using a thin flat screwdriver push the tab at the bottom away and pull the vacuum line off.



Using a flat screwdriver, lift this wiring support from the intake manifold.

**Step 4:** Remove vacuum line and electrical connector.



Remove this bolt which will free up the vacuum line.



Then pull this vacuum line straight out.

**Step 5:** Remove brake vacuum line and electrical connectors.



Remove the brake vacuum line using pliers to release the spring clamp. Then pull the vacuum line off.



Remove this connector by pressing in the tab



Then pull straight out.



Repeat for this electrical connector.



**Step 6:** Remove vacuum line and move wiring harness.



Remove this bolt which will free up a vacuum line. (side).



Pull this vacuum line straight out (same as other side).



Remove this bolt.



Loosen this bolt, rotate the harness away, and retighten this bolt to keep the harness out of the way..

**Step 7:** Remove the manifold.



Remove these six bolts.



Gently lift the manifold up and off.



Remove the manifold gaskets.



Clean the manifold mating surfaces.

## PART 2 – TRIAL FIT MANIFOLD

**Step 1:** Trial fit the manifold with the spacers.



Lay the spacers on the lower manifold.



Gently set the manifold on the spacers.

If you cannot install and torque the rear most bolt then you will have to remove the windshield valance as shown in Part 3.

### PART 3 – REMOVING WINDSHIELD VALANCE

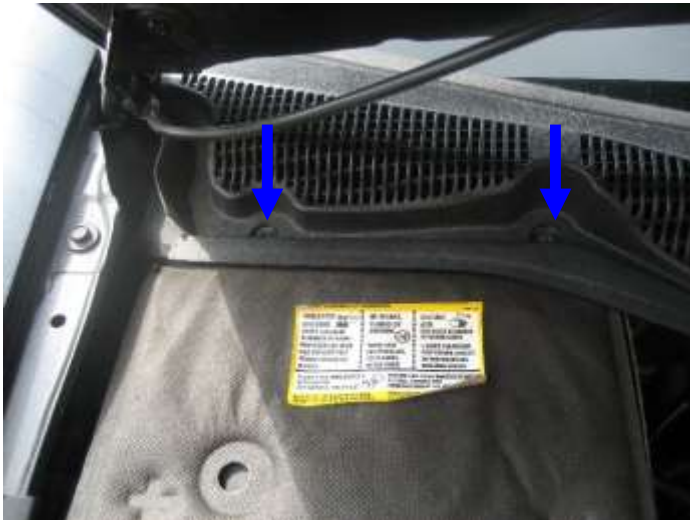
**Step 1:** Remove spacers, place a rag over the lower intake manifold ports, and remove the windshield valance.



Remove wiper cap, remove nut, and remove wiper arm.



Remove this nut.



Remove these four screws from the passenger side valance and remove the entire valance. The valance has a driver's and passenger's half.

**Step 2:** Remove this part of the fresh air intake.



Remove this part.



Remove this bolt and these two nuts, and remove section.



This is the view with the valance and section removed.

#### Part 4 – REINSTALLING THE MANIFOLD

**Step 1:** Spread the gasket sealant provided with the kit around the surface of each runner. Do not spread gasket sealant around the bolt holes.

Also spread gasket sealant on the top surface of each manifold insulator. It is also equally important for the surface of each insulator facing the inlet manifold to have a layer of gasket sealant so that the inlet manifold is appropriately sealed to avoid any air leakage.





(Picture is to be used as a guide to illustrate how to spread the Silicone over the Manifold Insulator)

**Step 2.** Place the inlet manifold onto the manifold insulators. (\*\*\*) NOTE – EXERCISE EXTREME CAUTION TO ENSURE NOTHING FALLS INSIDE THE RUNNERS. IF ANYTHING DOES FALL IN, IT MUST BE REMOVED OTHERWISE DAMAGE TO THE ENGINE WILL RESULT).

To align the inlet manifold correctly with the manifold insulators, place the new bolts given with the kit into the inlet manifold bolt holes. When the inlet manifold is placed onto the manifold insulators the bolts will align with the bolt holes. Make sure a spring washer is firstly added onto each bolt followed by a washer to properly tighten the bolts.

**Step 3.** With the manifold insulator in place, reassemble the manifold using the reverse of the disassembly procedure.

However it is not recommended to re-install the insulator (& insulator mount) located at the rear of the engine block for all the VE alloytec range.