

**“FLIP-TIE”**

**C5  
CORVETTE**

**COLD AIR  
INDUCTION  
MODIFICATION**

**Do this mod at you own risk.**

I make no claims as to the safety or effectiveness of this modification.

Please follow all safety protocols when working on your vehicle.

This Tech Tip covers the alteration of the Airbox and radiator shroud only, disassembly and removal of these items is assumed to be common knowledge of the DIY'er, however there are instructions to be found on the forum relating to installation of aftermarket induction systems which would illustrate this information.

This mod was done with the car on rhino ramps.

## Summary

This modification was done to introduce ambient temperature air into the intake system of a C5 Corvette, utilizing stock parts and purchased extras keeping the expense to a minimum.

The following pages will attempt to explain how to invert and alter the airbox, mark its position on the radiator shroud, produce a template to mark the position of the filter frame on the radiator shroud, marking and alteration of the radiator shroud, assembly and attachment of the airbox to the radiator shroud.

The level of competence to perform this task will include general knowledge of your vehicle, the use of ramps, various hand tools, an electric drill and cutting tools.

Purchased extras will include a K&N or similar type of washable filter, 24" cable ties, a rubber grommet, and a plastic plug.

- 1. Disconnect the battery at the negative terminal.**
- 2. Remove Airbox assembly, MAF, and airbridge.**
- 3. Disassemble the Air box.**

Here are the parts that you will keep for the mod.



Here are the parts that you will not be using.



#### 4. Clip off nubs.

Here are a couple of locators that will be disoriented when the lower section of the airbox is flipped over. You may want to clip these off.



## 5. Mark Location of box on radiator shroud.

On this step you will want to clean the radiator shroud of oil and dirt so masking tape will stick to the surface.

Reassemble the airbridge with the bottom part of the airbox flipped upside down, leaving the clamps loose install the airbridge assembly to the throttle body, airbridge grommets to the pegs on the radiator cover, leaving the inverted airbox resting on the radiator shroud. The airbox will not rest flatly against the shroud.

Slide a sheet of poster board between the airbox and radiator shroud and secure with masking tape. Wiggle all the clamping connections until they are properly in place, square up the airbox and snug the clamps.

The bottom edge of the airbox will be hovering about an inch above the shroud, you will have to push it down to the paper to mark its placement. The rubber coupler on the airbox will bend to accommodate this,

With a pencil mark the perimeter of the airbox. Marking the sides and bottom positions on the paper will be sufficient.



## 6. Prepare the airbox.

Remove the assembly from the throttle body and remove the box from the MAF.

Because you have inverted the box, the 1" hole in the side of the box will have to be plugged and another hole will have to be drilled into the other side. I used a 1" OD  $\frac{3}{4}$ " ID grommet and a  $\frac{3}{4}$ " plastic plug I found at Lowe's in the blue cabinets in the hardware section.

Try to put the hole in the same location on the other side. There are gussets inside the box where you will be making the hole, you may want to remove these first with a Dremel. They will eventually have to be removed so the grommet will seat correctly.





## **7. Remove radiator shroud.**

Links to instructions to remove the shroud can be found on the forum.

Essentially you just disconnect everything connected to the shroud and all the fasteners holding it to the car. There are two plastic pins with push nuts holding the shroud at the sides. Don't try to remove the metal retainers, just pop the plastic bolts from the metal frame underneath the shroud. These things are not worth the trouble saving, when the shroud is reinstalled just use cable ties at these points.

There will be strips of weather-stripping at the sides of the shroud. If they are loose this is a good time to reglue these to the frame.

## 8. Make template.

The position of the box marked earlier on the shroud is not the correct size for the opening in the shroud, it is to locate a template that you will make from the filter frame. The filter frame will fit snugly in the opening that you cut in the shroud and will rest on a lip at the top of the frame.

Use a piece of poster board that is a couple inches bigger all around than the filter frame. It does not have to be exactly in the center of the poster board, just generally centered.

I traced the outside of the frame on the board, then drew a parallel line inside of that to compensate for the lip on the frame.

I think this is the most important step of the process. The frame needs to fit snugly into the hole in the shroud resting on the lip of the frame. If you don't get this template right the first time do it again.

Lay the frame on a piece of poster board and trace the perimeter making indications where the two notches will be. Draw a parallel line 4mm inside of the line you just traced. Cut on this line to make your template.

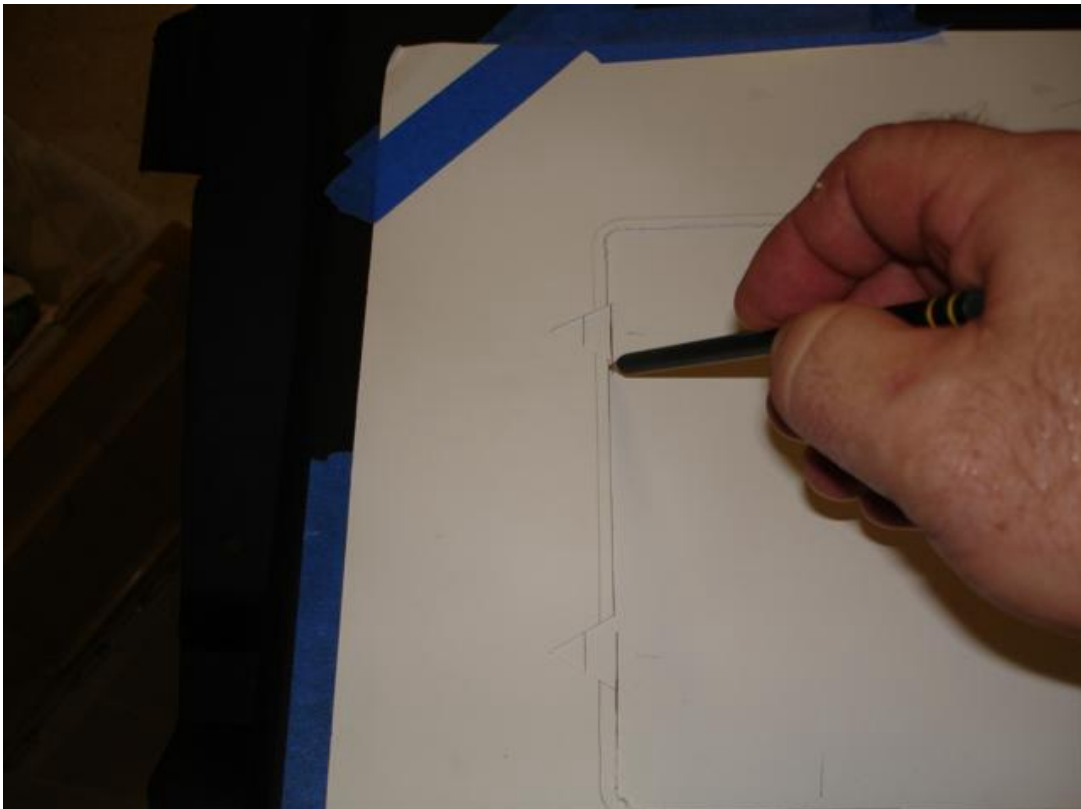


## 9. Marking and cutting the radiator shroud.

Now it's time to mark and cut the shroud.

The shape of the shroud makes it difficult to work with on a flat surface. I placed the shroud over a trash can. This allowed clearance underneath and let the sides of the shroud hang free. You may come up with something better.

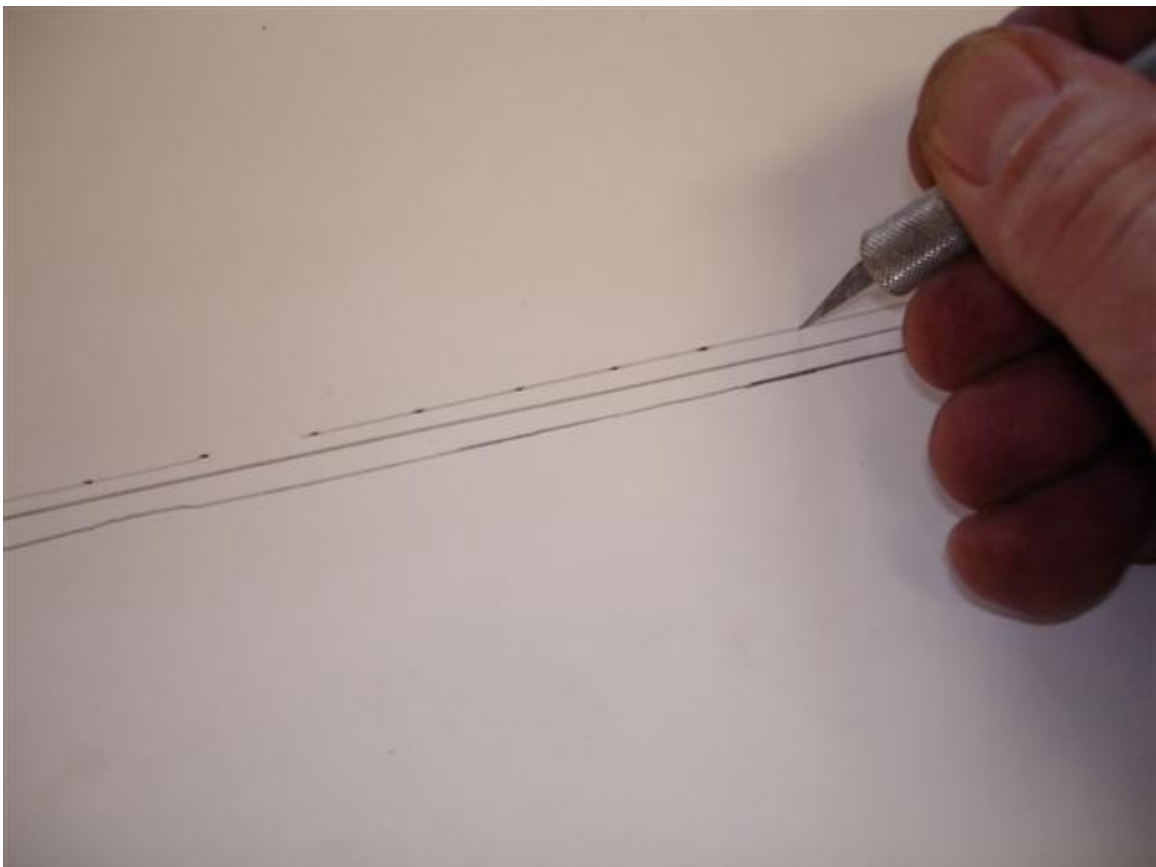
Make 2 V-Cuts on each side and bottom in the template. Make marks 9mm inboard of the tracing you did on the shroud where the V-Cuts are located on the template. This will make it easier to see what you are doing. Tape the template in place when you have it centered on the paper on the shroud. Trace a pencil line to the inside edge of the template onto the shroud. This is where the opening will be on the shroud.



## 10. Cutting the Radiator Shroud.

Remove the template being careful not to disturb the paper taped to the shroud.

Use a razor knife to poke holes along the line through the paper and into the shroud underneath.



Remove the paper from the radiator shroud, and using the holes previously made in the shroud as a guide, score the plastic with a razor knife against a straightedge. Then follow the scored line with straight cutters.



Note: Making a rough cut hole in the shroud first about 1/2 inch or so inside your scored lines will make it easier to manipulate the plastic when making the finish cut.

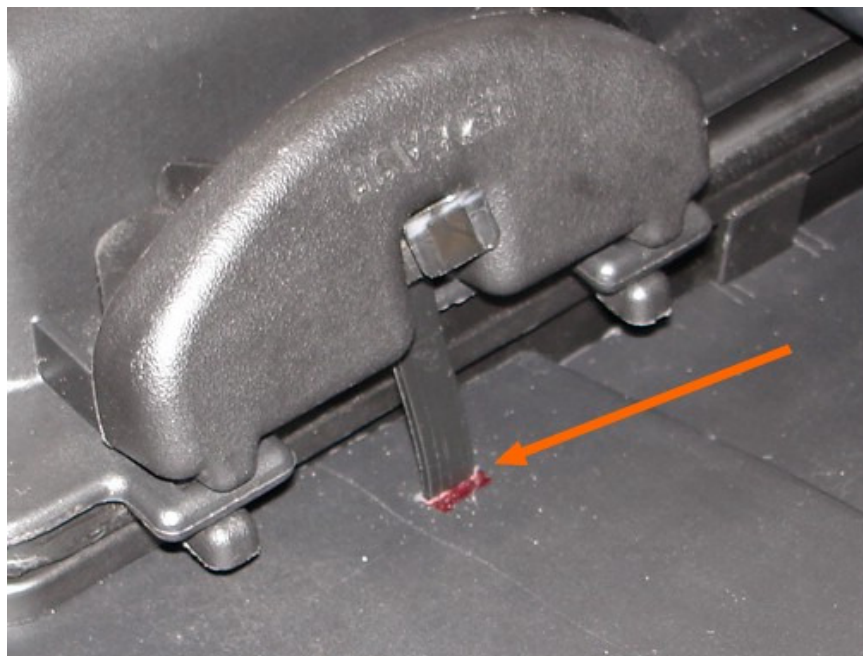


## 11. Strap holes.

Put the frame into the shroud, the K&N filter into the frame and the airbox onto the filter. At the bottom of the airbox are two rectangle slots, mark the shroud with a Sharpie directly under these slots.



Mark and create holes for straps directly beneath the clips.



## 12. Assembly

Run a 24" Zip Tie through the clip down through the top hole and up through the bottom hole. Repeat for the other side.



Install filter frame.





## Install filter



Install air box by sliding the ties through the slots at the bottom of the airbox securing with the ends cut from two Zip Ties.

Do not slide these down until you have the release clips in their proper closed positions.



Clips in closed position.



### **13. Strap Adjustment.**

Now slide the cut ends of the zip ties down against the airbox and pull snug with the release clips in the closed position.

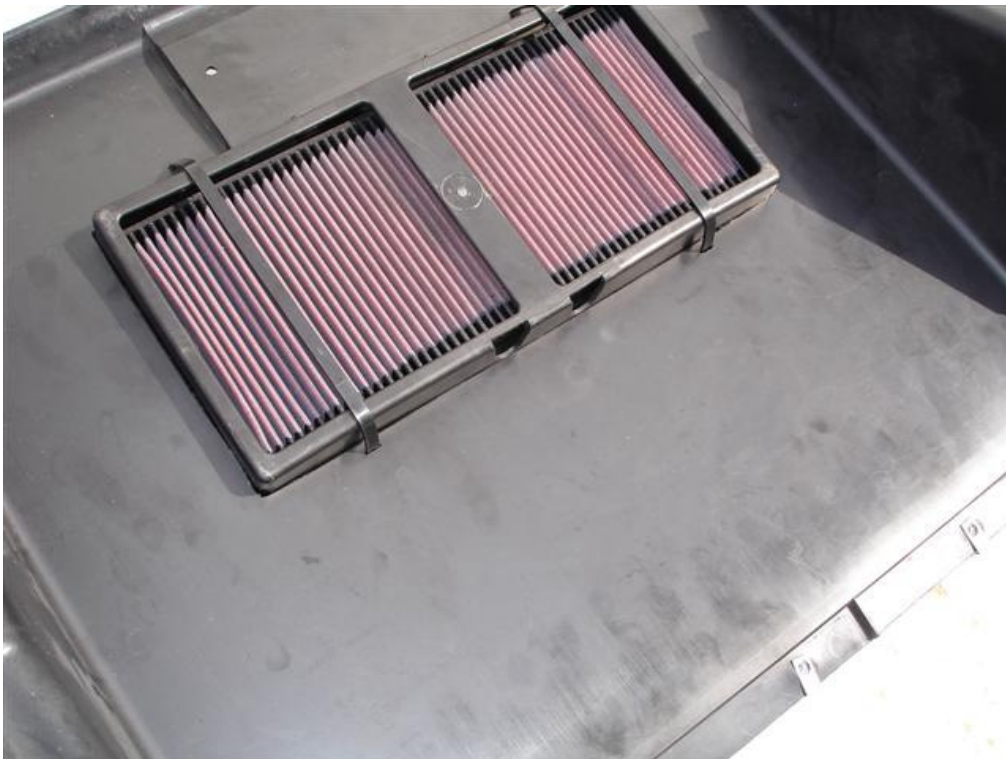
Release the clips and pull the ties 2 or 3 more clicks and return the clips to the closed position.

Repeat this procedure until the assembly is sealed. The airbox assembly should be snug but not tight enough so as to deform the filter frame and also to leave enough slack to change filters without having to replace the straps.

### **14. Installation**

The shroud and airbox can now be installed into the car as a unit.

15. Pics of assembled system.









**“Do It Yourself”**