

Volkswagen Cabriolet

DIY Guide: Improving Airflow

CIS, K-Jetronic (engines with pre-heat system) ~ method 1

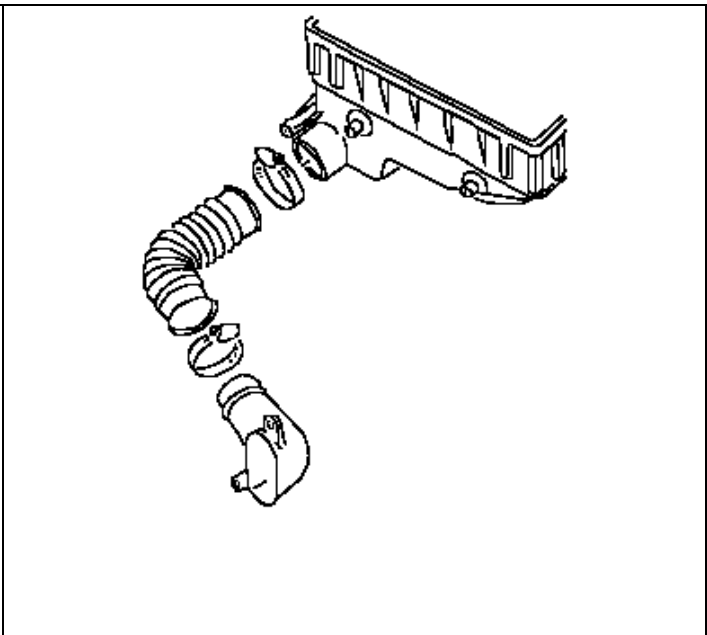
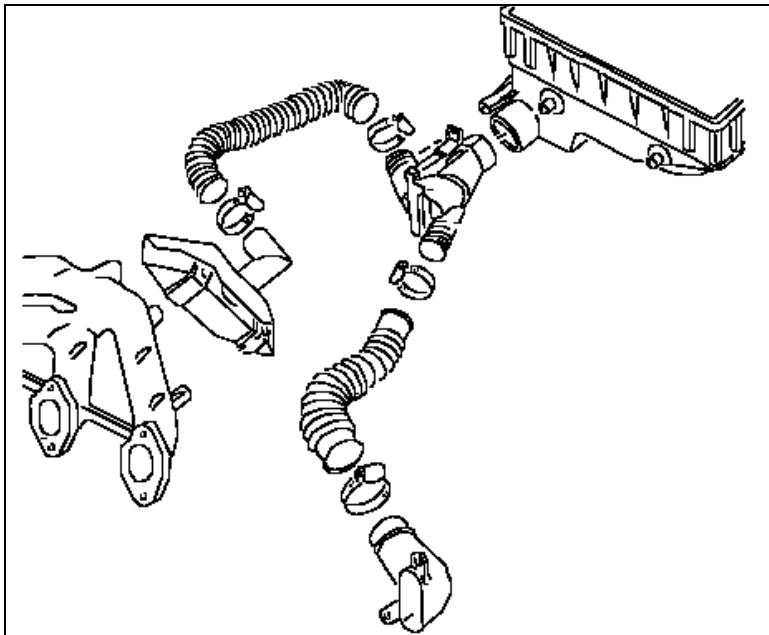
If you peer into your Cabriolet's engine bay and see a Y-flange connected to the air box, your car came with the pre-heat system (allegedly installed to aid in reducing NOx emissions during warm-up). This system consists of an exhaust manifold flange, hose, Y-flange at the air box, and a thermostatically-controlled inlet in said Y-flange.



It is the Y-flange and thermostat that create a rather substantial restriction of airflow into the air box:



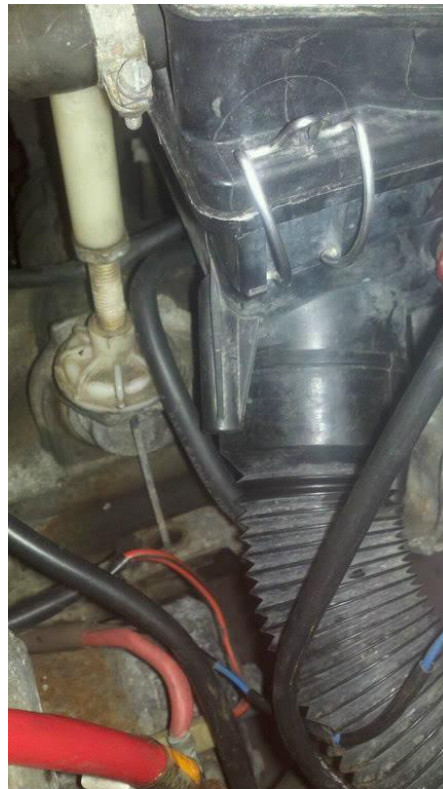
To vastly improve airflow into these air boxes and improve engine performance, remove the Y-flange, the pre-heat hose, and the original air hose. Replace these components with air hose #067133853B (or a DIY hose from your local home improvement center).



Exhaust flange.....067129595
 Pre-heat hose049129627T
 Y-flange (control box)049133871 or 049133871B
 Air hose 067133853E or 067133853F
 Air hose flange067133899

Air hose067133853B
 Air hose flange067133899
 OR
 Air hose067133853H
 Air hose flange067133899A

End result:



Note: For those living in cold climates, you may want to refrain from deleting the pre-heat system. In this case, attempt to remove just the thermostat from the Y-flange.

CIS, K-Jetronic ~ method 2

Another method of improving airflow for CIS engines is to replace the 8V air box with a CIS 16V air box out of a Scirocco (or Golf II, if you can find one), along with the air hose.



Air box: #027133837K, for upper and lower assembly
Air hose: #027133385C

CIS, K-Jetronic ~ method 3

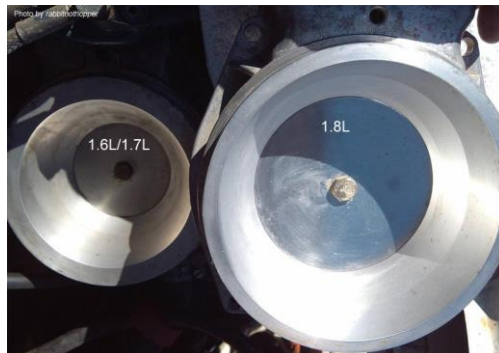
By itself, or in conjunction with the air box modifications, replacing the throttle body with an Audi 5000 or VW Golf II version will also increase airflow. These throttle bodies will bolt on, but the intake manifold will need to be ported.



CIS, K-Jetronic (1.6L, 1.7L) ~ method 4

By itself, or in conjunction with the air box & throttle body modifications, replacing the airflow sensor assembly with a 1.8L version will also aid in increasing airflow for the early CIS cars.

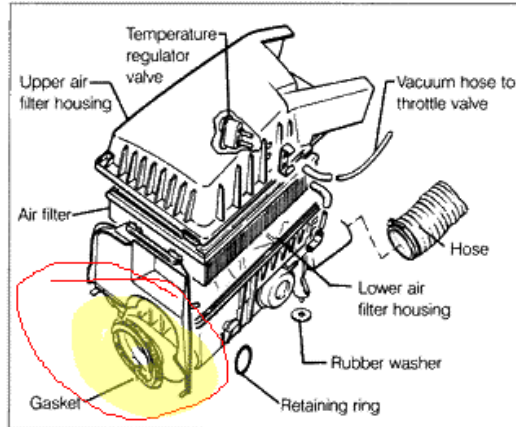
Note: If your car is CIS-basic, you cannot use a CIS-Lambda fuel distributor (aka metering valve).



Digifant ~ method 1

This method was originally posted on VWvortex.com by "Black_cabbie": <http://forums.vwvortex.com/zerothread?id=1731460> .

If you have a 1990-1993 Digifant II engine, this procedure is really easy. Take your lower air box out (it is connected by two rubber band thingies – one in back on the fender side, one forward on the engine side – and three or four clips attaching it to the upper air box). Remove the air filter. You will see a cone-thing in the bottom; take this out. I found the easiest way was to use a wide flathead screwdriver on the outside portion to get it started; once that is loose, push out from the inside of the box.



Digifant II box shown; remove highlighted area (this part restricts airflow).

Digifant ~ method 2

This how-to was originally posted on VWvortex.com by "Black_cabbie": <http://forums.vwvortex.com/zerothread?id=1995248> .

Tools needed for this method:

- Dremel
- Screwdriver for undoing air box clips
- 3 meters of flexible 80mm hose and matching connector

Steps	Photos
1. First, remove the air box from the car. Then, remove the snorkel from the air box.	

2. Have your 3 meters of 80mm hose handy. It's flexible so I can route it easily wherever I want.



3. Remove the old intake hose. This goes from the air box under the radiator.



4. I made a round mark of 80mm and cut it with my trusty Dremel.



5. Perfect! Snug fit!!!!



6. But the remaining of the old intake hose was still in the way. Not anymore 🍷

Trimming the both old intakes (warm and cold).



The finished result.

7. Route the hose where airflow is good: grille, beneath the bumper, etc.



Digifant ~ method 3

This how-to was originally posted on VWvortex.com by "dab043": <http://forums.vwvortex.com/zerothread?id=3344095>.

Tools needed for this method:

- Screwdriver and/or pliers for undoing & reinstalling air box clips
- Volvo air box pipe

Steps

I was told the Scirocco 8v air box was a direct fit to my Digi II, but it had a 3" outlet, better than my stock. So I bought it for \$15 via VWvortex. I looked at it and seemed to be the same... not so true. For one, it had no place for the warm air regulator and two minor things: the clips are not the exact same as my stock one and the box itself is a bit bigger but pretty close. Here is what I am talking about:



Photos

So I decided that 1/2 to 3/4 of the Volkswagens in WI have rotted out arm air inlet hoses so I decided it will be no big deal; we will see this coming December if my decision was wise. 😞 I was able to stretch the clips with my large pliers to help them fit and I just used some brute force to get the box in there snug.

Next issue was how I was going to get this RAM AIR thing working for me piping-wise. I was not a big fan of the flexible dryer hose since I know how ineffective they are for clothes dryers compared to straight pipe, and they look a bit bulk for me. Ron's black PVC (<http://reflectionsandshadows.com/digi-cold/>) was pretty slick but not as large a diameter as I wanted and it was a long run for my liking (still a sweet mod 😊).

So I started looking around the garage and found some wet vac pipe that was 3" and fit the end of the Scirocco outlet, but it was heavy and had no elbows. So I thought of doing a carbon fiber one (still want to) but I lack skills and it ain't cheap. So while at the local pick-n-pull I was mulling over Volvo's looking for oil coolers and such and found this wonderful air intake pipe; bought this one and a couple others for like \$15 and would see what fit and worked best. I was kind of psyched 🍀.

Okay, enough of the chatter; you only have been reading to see pics... here they are.
This is the Volvo pipe compared to the original pipe:



Here they are again; you can see the Volvo goes from 3" and gets wider as it goes to more like 3.5" or 4".



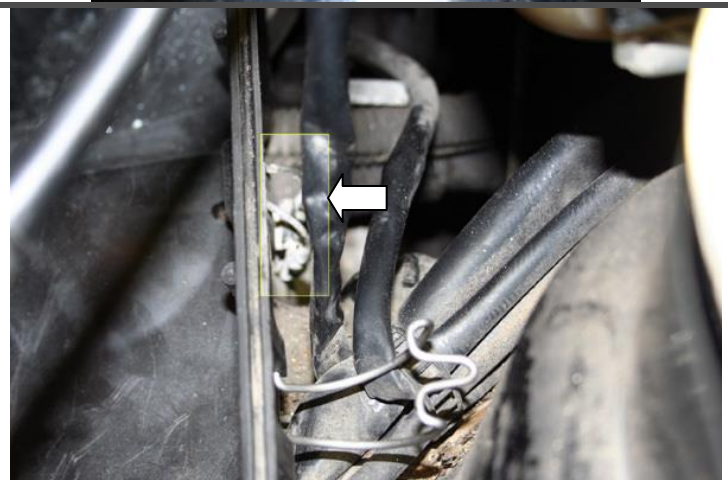
Here is how it looks out of the engine bay:



I took the battery out to give me some wiggle room. I did scrape the rust and give the battery tray a quick Rustoleum special paint job to hold off rust a little longer.



This is where I really had to push on it to get the clip that is mounted to the engine bay to snap on the Scirocco box; it was key to making sure this thing was secure. (clip is highlighted)



Top view of when I got the hose on, and another clip shot.



Here is what it looks like from below the car:



Here is what it looks like straight on (highlighted in yellow). The blue highlight is what I want to cut out and put a cone filter in so no chance of flooding and even more air. 🤖 Crazy, huh? I think cutting into good metal is scary, but it's not structural... right? 🚗



I don't care what any computer or person says, this mod is HUGE! I feel like I got 10 more ponies (I know I don't), but the nice noise alone is worth 5hp alone, I mean am I right or what. I have been driving with a grin for 2 weeks now (sorry a bit slow on the write up). I don't care what anyone says, I feel fast and I beat a Mustang off the line yesterday; SURE they were in the turning lane but it counts, right? 🏁

What to not do to any air box



^That is commonly referred to as "Swiss-cheesing" the air box and will do more harm than good (it will suck in hot engine air and dirt, and will cause a loss of pressure in the box). Refrain from listening to the hype.

K&N air filters

We're talking about the OEM replacement, not the cone-shaped modification*.

Pro K&N:

"[It] does make a small difference in 1/4 mile times usually a tenth of a second or two depending on if you are comparing it to a clean paper filter or a dirty one. Whether or not the price difference is worth it or not is up to you. Keep in mind that it is a lifetime filter with a million mile warrantee. That being said I have heard a few rumors that the filter does not filter out as small a particle as a paper filter, but K&N says it is tested and guaranteed to meet manufacturers' specifications.

Anti K&N:

"The airflow through filters has been tested for years with various claims. The validity of the tests depends on the criteria and the methods used to conduct the tests, so published results are all over the board. Although I have no data to prove it, I more or less think the K&N filter is overrated in terms of air flow capability versus the normal replaceable filter for less money."

General consensus: If you regularly take your car to the track, go ahead and use a K&N filter. If your car sees mostly, or only, street use, stick to the paper OEM filter.

*The cone-shaped "cold air intake" filter is useless in these cars; don't bother wasting your time and money with this modification.

**** Remember, you are responsible for working on your car; Cabby-Info.com, "Black_cabbie", "dab043", VWvortex.com, VAG, VWoA, or anyone else are not responsible if anything goes wrong while you are working on, in and under your car! Use this information at your own risk!***

